Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.02.95 Edition : ISO 4113 Test oil

: 0 460 494 386 Part no. Pump designation : VE4/9F2150R474-2

Customer-spec. information : PSA Customer

: XUD11ATE-L/BVA Motor

Power KW 78.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250

Aneroid pressure hPa

1000

Setting mm 2.5 Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure

1000

Setting hPa 5.3 Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250

Aneroid pressure 1000

Del. quantity

cm3/1000 strokes : 61.5 Tolerance

cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. 2.5 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500 Del. quantity cm3/1000 strokes :

43.0

Tolerance

cm3/1000 strokes : 0.5

Spread

2.5 cm3/1000 strokes :

Shutoff solenoid

12 Volt

Check tolerance

2.5 cm3/1000s.

Check tolerance

cm3/1000s.2.5

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm

| Del. quantity | 1 |
|-------------------------------------|---------------------------------------|
| cm3/1000 strokes : 3.0 | SV travel mm : 1.3 |
| Tolerance | Tolerance mm : 0.4 |
| cm3/1000 strokes : 0.5 | |
| | + Check |
| Shutoff solenoid | tolerance mm : 0.7 |
| Volt : 12 | + Shutoff solenoid |
| | + Volt : 12 |
| FULL-LOAD SPEED REGULATION | † |
| | + SUPPLY PUMP PRESSURE CHARACTERISTIC |
| Rated speed rpm : 2250 | + |
| Pressure hPa : 1000 | + Rated speed rpm : 2000 |
| Del. quantity | + Aneroid pressure |
| cm3/1000 strokes : 52.0 | + hPa : 1000 |
| Tolerance | + Supply pomp |
| cm3/1000 strokes : 3.0 | pressure bar : 7.4 |
| Shutoff solenoid | + Tolerance hPa : 0.3 |
| Volt : 12 | + Shutoff solenoid |
| | + Volt : 12 |
| STARTING FUEL DELIVERY | |
| OTANIZING TOLL VELIVERY | Rated speed rpm : 1000 |
| Rated speed rpm : 100 | Aneroid pressure |
| Del. quantity | hPa : 1000 |
| cm3/1000 strokes : 75.0 | + Supply pomp |
| Tolerance | + pressure bar : 4.6 |
| cm3/1000 strokes : 5.0 | |
| | · · · · · · · · · · · · · · · · · · · |
| Shutoff solenoid Volt : 12 | + Shutoff solenoid |
| Volt : 12 | + Volt : 12 |
| SET GRADUATED STARTING DELIVERY | T OVERFLOW QUANTITY |
| CONTROL LEVER, IDLE STOP | T STERN CONTINUE |
| CONTROL LEVERY TOLL OF CO | Rated speed rpm : 2000 |
| Rated speed rpm : 200 | Overflow quantity |
| Del. quantity | + ccm/10s : 97.2 |
| cm3/1000 strokes : 77.0 | Tolerance |
| | 1 |
| Tolerance cm3/1000 strokes : 1.0 | + ccm/10s : 41.6 |
| Shutoff solenoid | Chark talanana |
| | + Check tolerance |
| Volt : 12 | + ccm/10s : 41.6 |
| | + Shutoff solenoid |
| | † Volt : 12 |
| | † |
| | - + Rated speed rpm : 500 |
| INJECTION-PUMP TEST SPECIFICATIONS | + Overflow quantity |
| | + ccm/10s : 62.5 |
| TIMING DEVICE CHARACTERISTIC | + Tolerance |
| | + ccm/10s : 20.8 |
| Rated speed rpm : 2000 | + |
| Aneroid pressure | + Check tolerance |
| hPa : 1000 | + ccm/10s : 20.8 |
| | + Shutoff solenoid |
| SV travel mm : 5.9 | + Volt : 12 |
| Tolerance mm : 0.4 | + |
| Check | DELIVERY AND BREAKAWAY CHARACTERISTIC |
| tolerance mm : 0.7 | + |
| Shutoff solenoid | + Rated speed rpm : 2250 |
| Volt : 12 | + Aneroid pressure |
| | → hPa : 1000 |
| Rated speed rpm : 1000 | + Del. quantity |
| | |
| Aneroid pressure | + cm3/1000 strokes : 52.0 |
| Aneroid pressure hPa : 1000 | |

| | | | | . | | | |
|---|---|--|---|---|--------------------------|--|--|
| Tolerance cm3/1000 strokes | : | 3.0 | ‡ | Del. quantity cm3/1000 strokes | : | 62.0 | |
| Check tolerance cm3/1000s. | • | 4.0 | <u> </u> | Tolerance cm3/1000 strokes | • | 1.5 | |
| Shutoff solenoid | | 12 | + | Check tolerance | • | | |
| Volt | • | | ‡ | cm3/1000s. Shutoff solenoid | : | 2.5 | |
| Rated speed rpm Aneroid pressure | : | 2400 | ‡ | Volt | : | 12 | |
| hPa | : | 1000 | + | Rated speed rpm | : | 500 | |
| Del. quantity cm3/1000 strokes | : | 37.0 | Ŧ | Aneroid pressure hPa | : | 1000 | |
| Check tolerance cm3/1000s. | : | 4.0 | ‡ | Del. quantity cm3/1000 strokes | : | 61.5 | |
| Shutoff solenoid Volt | | 12 | 1 | Tolerance cm3/1000 strokes | | 1.5 | |
| | • | | Ŧ | Check tolerance | • | | |
| Rated speed rpm Aneroid pressure | : | 2700 | ‡ | cm3/1000s. Shutoff solenoid | : | 2.5 | |
| hPa Del. quantity | : | 1000 | Ì | Volt | : | 12 | |
| cm3/1000 strokes | : | 8.0 | + | Rated speed rpm | | 1250 | |
| Tolerance cm3/1000 strokes | : | 3.0 | Ţ | Aneroid pressure hPa | : | 1000 | |
| Check tolerance cm3/1000s. | : | 4.0 | ‡ | Del. quantity cm3/1000 strokes | : | 61.5 | |
| Shutoff solenoid Volt | | 12 | 1 | Tolerance cm3/1000 strokes | | 0.5 | |
| | • | | Ŧ | Check tolerance | • | | |
| Rated speed rpm Aneroid pressure | : | 750 | ‡ | cm3/1000s. Shutoff solenoid | : | 2.3 | |
| hPa | : | 400 | <u>†</u> | Volt | : | 12 | |
| LDA/ | | | 1 | | | | |
| HBA stroke mm Del. quantity | : | 7,1 | † | MECHANICAL SHUTOF | F | | |
| cm3/1000 strokes | : | 56.5 | Ŧ | Rated speed rpm | : | 2000 | |
| Tolerance cm3/1000 strokes | : | 0.5 | ‡ | Aneroid pressure hPa | : | 1000 | |
| Check tolerance | | |) | Not minorable. | | | |
| | : | 3.0 | Ī | Del. quantity cm3/1000 strokes | : | 1.5 | |
| cm3/1000S. Shutoff solenoid | | 3.0 | | cm3/1000 strokes Tolerance | | | |
| cm3/1000s. Shutoff solenoid Volt | : | 12 | + | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 1.5 | |
| cm3/1000S. Shutoff solenoid | : | 12 | +++++++++++++++++++++++++++++++++++++++ | cm3/1000 strokes Tolerance cm3/1000 strokes | : | | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | : | 12 | † † † | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 1.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : | 12 2000 1000 | + + + + + | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 1.5 1.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 12 2000 1000 56.5 | +++++++++++++++++++++++++++++++++++++++ | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 1.5 1.5 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 12 2000 1000 56.5 | +++++++++++++++++++++++++++++++++++++++ | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm | : : : | 1.5 1.5 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 12 2000 1000 56.5 1.5 | +++++++++++++++++++++++++++++++++++++++ | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : : LE S | 1.5 1.5 12 STOP 325 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 12 2000 1000 56.5 1.5 2.3 | +++++++++++++++++++++++++++++++++++++++ | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : LE S | 1.5 1.5 12 STOP 325 1.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure | : | 12 2000 1000 56.5 1.5 2.3 12 1000 | +++++++++++++++++++++++++++++++++++++++ | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : : : LE S : | 1.5 1.5 12 STOP 325 1.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm | : | 12 2000 1000 56.5 1.5 2.3 | +++++++++++++++++++++++++++++++++++++++ | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : : : LE S : | 1.5 1.5 12 STOP 325 1.5 | |

FULL-LOAD STOP CONTROL LEVER

Rated speed rpm : 325
Del. quantity
cm3/1000 strokes : 1.5
Tolerance
cm3/1000 strokes : 1.5
Check tolerance
cm3/1000s. : 1.5

IDLE DELIVERY

Rated speed rpm : 375
Del. quantity
cm3/1000 strokes : 8.0
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000s. : 3.0
Shutoff solenoid
Volt : 12

EXHAUST-GAS RECIRCULATION

Rated speed rpm 1000 Aneroid pressure 1000 hPa Del. quantity cm3/1000 strokes : 25.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. 3.0 Shutoff solenoid 12 Volt

START TRANSITION

Rated speed rpm : 325
Del. quantity
cm3/1000 strokes : 40.5
Tolerance
cm3/1000 strokes : 3.5
Shutoff solenoid
Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/ HBA stroke mm : 7,1 Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 1,1
Tolerance mm : +-0,2

MICROSWITCH

SET

mm : 0,8...3,0 : ARF 12,0

End of test-specification sheet

A04

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 27.10.95 : ISO 4113 Test oil

: 0 460 494 337 Part no. Pump designation: VE4/9F2175R504

Customer-spec. information

Customer : PSA

: DJ 5 2.4 L X2/30 Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,82 Tolerance mm : +0.02

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : 4.0 Tolerance mm 0.1 : Shutoff solenoid

Volt

SUPPLY PUMP PRESSURE

1500 Rated speed rpm :

Setting hPa 6.0 Tolerance hPa 0.3 :

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

2.0

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 strokes : Spread

cm3/1000 strokes :

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm :

Del. quantity

cm3/1000 strokes : 3.5

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2600

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

| | | 1 |
|---------------------------------------|-------------------|--|
| SET GRADUATED STA | DTING DELIVERY | SV travel mm : 1.0 |
| CONTROL LEVER, ID | | + SV travel mm : 1.0 + Tolerance mm : 0.4 |
| COMINGE FEATH' IN | LL 310F | + Check |
| Rated speed rpm | : 100 | tolerance mm : 0.7 |
| Del. quantity | | + Shutoff solenoid |
| cm3/1000 strokes | : 56.0 | + Volt : 12 |
| Tolerance | | + |
| cm3/1000 strokes | : 3.0 | SUPPLY PUMP PRESSURE CHARACTERISTIC |
| Shutoff solenoid | 40 | † a |
| Volt | : 12 | + Rated speed rpm : 2100 |
| | | + Supply pomp + pressure bar : 7.8 |
| LOAD-DEPENDENT ST. | ART OF DELIVERY | Tolerance hPa : 0.3 |
| SETTING | ANT OF PECTACION | + Shutoff solenoid |
| | | + Volt : 12 |
| DELIVERY DIFFEREN | ICE | + |
| | | + Rated speed rpm : 900 |
| Rated speed rpm | : 1500 | + Supply pomp |
| Del. quantity | 47.5 | pressure bar : 4.3 |
| cm3/1000 strokes Tolerance | : -14.5 | + Tolerance hPa : 0.3 + Shutoff solenoid |
| cm3/1000 strokes | : 1.0 | + Volt : 12 |
| Shutoff solenoid | . 7.0 | T vocc . 12 |
| Volt | : 12 | + OVERFLOW QUANTITY |
| | | + |
| PRESSURE DIFFEREN | CE | + Rated speed rpm : 2100 |
| | 4500 | + Overflow quantity |
| Rated speed rpm | : 1500 | + ccm/10s : 97.2 |
| Del. quantity cm3/1000 strokes | : -0.2 | + Tolerance + ccm/10s : 41.6 |
| Tolerance | 0.2 | |
| cm3/1000 strokes | : 0.1 | Check tolerance |
| Shutoff solenoid | | + ccm/10s : 41.6 |
| Volt | : 12 | + Shutoff solenoid |
| | | + Volt : 12 |
| TIMING-DEVICE TRAV | VEL DIFFERENCE | † |
| Data dama adams | . 1500 | Rated speed rpm : 600 |
| Rated speed rpm | : 1500 | + Overflow quantity + ccm/10s : 63.8 |
| Del. quantity cm3/1000 strokes | : -1.3 | Tolerance |
| Tolerance | . 1.5 | + ccm/10s : 22.2 |
| cm3/1000 strokes | : 0.1 | + |
| Shutoff solenoid | | + Check tolerance |
| Volt | : 12 | + ccm/10s : 22.2 |
| | | + Shutoff solenoid |
| INJECTION-PUMP TES | CT CDECTETCATIONS | + Volt : 12 |
| INJECTION PUMP TES | SI SPECIFICATIONS | DELIVERY AND BREAKAWAY CHARACTERISTIC |
| TIMING DEVICE CHAR | RACTERISTIC | DELIVERY AND BREAKANAT CHARACTERISTIC |
| | | Rated speed rpm : 2600 |
| Rated speed rpm | : 2100 | + Del. quantity |
| Tolerance mm | : 0.4 | + cm3/1000 strokes : 13.0 |
| Check | 2 7 | + Tolerance |
| tolerance mm | : 0.7 | + cm3/1000 strokes : 2.0 |
| Shutoff solenoid Volt | : 12 | + Check tolerance + cm3/1000s. : 4.0 |
| VOLL | • 16 | Shutoff solenoid |
| Rated speed rpm | : 900 | + Volt : 12 |
| * * * * * * * * * * * * * * * * * * * | | 1 |

| Datad aread nam | | 2/00 | 1 |
|----------------------------------|---|--|---|
| Rated speed rpm Del. quantity | • | 2400 | Rated speed rpm : 2100 |
| cm3/1000 strokes | • | 30.0 | Del. quantity |
| Tolerance | • | | + cm3/1000 strokes : 1.5 |
| cm3/1000 strokes | : | 3.0 | Tolerance |
| Check tolerance | • | 0.0 | + cm3/1000 strokes : 1.5 |
| cm3/1000s. | : | 5.0 | + Spread |
| Shutoff solenoid | • | | + cm3/1000 strokes : 5.0 |
| Volt | : | 12 | - Check tolerance |
| | | _ | + cm3/1000s. : 1.5 |
| Rated speed rpm | : | 2825 | + Spread |
| Del. quantity | | | + cm3/1000 strokes : 5.0 |
| cm3/1000 strokes | : | 1.5 | + Shutoff solenoid |
| Tolerance | | | + Volt : 12 |
| cm3/1000 strokes | : | 1.5 | + |
| Check tolerance | | | |
| cm3/1000s. | : | 1.5 | + ELECTR. SHUTOFF |
| Shutoff solenoid | | 4.4 | + CONTROL LEVER, IDLE STOP |
| Volt | : | 12 | † |
| Badaal anaal aa | _ | 2400 | Rated speed rpm : 375 |
| Rated speed rpm | : | 2100 | + Del. quantity |
| Del. quantity cm3/1000 strokes | | 44.0 | + cm3/1000 strokes : 1.5 |
| Tolerance | • | 44.0 | + Tolerance + cm3/1000 strokes : 1.5 |
| cm3/1000 strokes | | 1.0 | Check tolerance |
| Check tolerance | • | 1.0 | - cm3/1000s. : 1.5 |
| cm3/1000s. | • | 2.2 | Spread |
| Shutoff solenoid | • | | + cm3/1000 strokes : 5.0 |
| Volt | : | 12 | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |
| 7017 | • | | FULL-LOAD STOP CONTROL LEVER |
| Rated speed rpm | : | 750 | + |
| Del. quantity | | | Rated speed rpm : 375 |
| cm3/1000 strokes | : | 41.5 | + Del. quantity |
| Tolerance | | | + cm3/1000 strokes : 1.5 |
| cm3/1000 strokes | : | 1.5 | † Tolerance |
| Shutoff solenoid | | | + cm3/1000 strokes : 1.5 |
| Volt | : | 12 | + Spread |
| | | | + cm3/1000 strokes : 5.0 |
| Rated speed rpm | | 600 | + Check tolerance |
| Del. quantity | | /a F | + cm3/1000s. : 1.5 |
| cm3/1000 strokes | : | 42.5 | + Spread + cm3/1000 strokes : 5.0 |
| Tolerance cm3/1000 strokes | | 1.5 | + cm3/1000 strokes : 5.0 |
| Check tolerance | • | ۱۰۰ | \mathbf{I} |
| cm3/1000S. | • | 3.0 | <u> </u> |
| Shutoff solenoid | • | 3.0 | 1 |
| Volt | : | 12 | <u>↓</u> |
| • | • | | |
| Rated speed rpm | : | 1250 | → CHECKING LOAD-DEPENDENT |
| Del. quantity | | | The start of delivery |
| cm3/1000 strokes | : | 42.0 | + |
| Tolerance | | | + DELIVERY DIFFERENCE |
| cm3/1000 strokes | : | 0.5 | + |
| Check tolerance | | 2.2 | + Rated speed rpm : 1500 |
| cm3/1000s. | : | 2.2 | + Del. quantity |
| Shutoff solenoid | | 12 | + cm3/1000 strokes : -17.0 |
| Volt | • | 12 | + Tolerance + cm3/1000 strokes : 3.0 |
| | | -, -, -, -, -, -, -, -, -, -, -, -, -, - | Check tolerance |
| MECHANICAL SHUTOF | F | | cm3/1000s. : 5.0 |
| RECOMPLEME SHOLDER | • | | 1 61137 10000. |

| Shutoff solenoid Volt | : | 12 | Ī | Te CI SI |
|--|-------|-------------|----------|----------------|
| TIMING-DEVICE TRA | IVEL | DIFFERENCE | + | V |
| Rated speed rpm Del. quantity | : | 1500 | Ţ | A: |
| cm3/1000 strokes Tolerance | : | -1.3 | 1 | D. |
| cm3/1000 strokes Check tolerance | : | 0.1 | + | To D |
| c m 3/1000s. | : | 0.1 | Ŧ | To |
| Shutoff solenoid Volt | : | 12 | Ŧ | D. |
| DELIVERY DIFFEREN | CE | | + | |
| Rated speed rpm | : | 1500 | ‡ | CC |
| Del. quantity cm3/1000 strokes | : | 5.0 | ‡ | SE |
| Tolerance cm3/1000 strokes | ; | 3.0 | + | Co |
| Check tolerance cm3/1000s. | : | 3.0 | ‡ | po |
| Shutoff solenoid Volt | : | 12 | 1 | 00 pg |
| PRESSURE DIFFEREN | CE | | + | · |
| Rated speed rpm | : | 1500 | ‡ | |
| Supply pomp pressure bar | : | -1.2 0.3 | † | Er |
| Tolerance hPa Shutoff solenoid | • | | 7 | |
| Volt | : | 12 | ‡ | |
| TIMING-DEVICE TRA | VEL | - - | ‡ | |
| Rated speed rpm Tolerance mm Check | : | 1500 0.6 | + | |
| tolerance mm Shutoff solenoid | : | 0.7 | 7 | |
| Volt | : | 12 | Ţ | |
| | | | Ŧ | |
| START TRANSITION | | | ‡ | |
| Rated speed rpm Del. quantity | : | 350 | ‡ | |
| cm3/1000 strokes Tolerance | : | 35.0 | ‡ | |
| cm3/1000 strokes Shutoff solenoid | : | 10.0 | <u> </u> | |
| Volt | : | 12 | ‡ | |
| Rated speed rpm | : | 200 | ‡ | |
| Del. quantity cm3/1000 strokes | : | 70.0 | ‡ | |
| A00 | | | | |

Tolerance cm3/1000 strokes : 20.0

Shutoff solenoid /olt

12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 Tolerance mm : +-0,1 Dimension KF mm : 6,0 folerance mm : +-0,2 Dimension MS mm : 1,0 olerance mm : +-0,2

CONTROL LEVER POSITION

Control lever

: 34,7..38,7 osition YA mm

Control lever

: 63,3..74,7 osition YB mm

End of test-specification sheet

80A

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 27.10.95 Edition : ISO 4113 Test oil

: 0 460 494 429 Part no. Pump designation : VE4/9F2175R504-1

Customer-spec. information

Customer Motor

: PSA

: DJ 5 Power KW

62.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter: x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,82

Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

4.0 Setting mm : Tolerance mm 0.1

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa 6.0 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 475

Del. quantity

cm3/1000 strokes : 3.5

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2600

Del. quantity

13.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

A09

| | | | 4 | • | | | | |
|---------------------|-------|------------|--------------|--------|----------------|----------|-------------|----------|
| SET GRADUATED STA | ARTIN | NG DELIVER | Y | · SV t | ravel mm | : | 1.0 | |
| CONTROL LEVER, II | | | <u>†</u> | | erance mm | : | 0.4 | |
| | | | 1 | Chec | | | | |
| Rated speed rpm | : | 100 | 1 | | erance mm | • | 0.7 | |
| Del. quantity | • | , | 1 | | off solenoid | • | 3. 1 | |
| cm3/1000 strokes | | 56.0 | 1 | · Volt | | | 12 | |
| Tolerance | • | 20.0 | <u>1</u> | | • | • | 12 | |
| cm3/1000 strokes | | 3.0 | \perp | CHE | PLY PUMP PRESS | 31100 | CHADACTE | בסדפדור |
| Shutoff solenoid | • | 5.0 | 1 | 3011 | LI FOME PINES | SONE | CHARACTE | KISIIC |
| Volt | : | 12 | floor | Pate | ed speed rpm | : | 2100 | |
| VOCC | • | 12 | 1 | | of bowb | • | 2100 | |
| | | | 7 | | | | 7.8 | |
| LOAD-DEPENDENT ST | CADT | OF DELIVE | DV T | | ssure bar | : | | |
| | AR I | OF DELIVE | 7 | | erance hPa | • | 0.3 | |
| SETTING | | | † | | off solenoid | | 40 | |
| D=1 T1/==1/ DTE==== | :a= | | † | · Volt | | : | 12 | |
| DELIVERY DIFFEREN | VLE. | | † | | 1 | | 000 | |
| 5 1 | | 4500 | † | | ed speed rpm | : | 900 | |
| Rated speed rpm | : | 1500 | † | | of bomb | | , , | |
| Del. quantity | | 4. = | + | | sure bar | : | 4.3 | |
| cm3/1000 strokes | : | -14.5 | † | | erance hPa | : | 0.3 | |
| Tolerance | | | † | | off solenoid | | | |
| cm3/1000 strokes | : | 1.0 | + | Volt | • | : | 12 | |
| Shutoff solenoid | | | + | | | | | |
| Volt | : | 12 | + | OVER | RFLOW QUANTITY | ! | | |
| | | | + | | | | | |
| PRESSURE DIFFEREN | ICE | | + | Rate | ed speed rpm | : | 2100 | |
| | | | + | | flow quantity | / | | |
| Rated speed rpm | : | 1500 | + | ccm/ | 10s | : | 97.2 | |
| Del. quantity | | | + | Tole | rance | | | |
| cm3/1000 strokes | : | -0.2 | + | ccm/ | 10s | : | 41.6 | |
| Tolerance | | | + | | | | | |
| cm3/1000 strokes | : | 0.1 | + | Chec | k tolerance | | | |
| Shutoff solenoid | | | + | ccm/ | 10s | : | 41.6 | |
| Volt | : | 12 | + | Shut | off solenoid | | | |
| | | | 1 | Volt | | : | 12 | |
| TIMING-DEVICE TRA | VEL | DIFFERENCE | ∃ | | | | | |
| - · | | | 1 | Rate | d speed rpm | : | 600 | |
| Rated speed rpm | : | 1500 | 1 | | flow quantity | , | | |
| Del. quantity | | | į. | ccm/ | | : | 63.8 | |
| cm3/1000 strokes | : | -1.3 | 1 | Tole | rance | | | |
| Tolerance | | | 1 | ccm/ | | : | 22.2 | |
| cm3/1000 strokes | : | 0.1 | 1 | | - | | | |
| Shutoff solenoid | | | 1 | Chec | k tolerance | | | |
| Volt | : | 12 | 1 | ccm/ | | : | 22.2 | |
| | - | | 1 | | off solenoid | | | |
| | | | | Volt | | : | 12 | |
| INJECTION-PUMP TE | ST S | PECIFICATI | ons 1 | | | • | | |
| | | | 1 | DELI | VERY AND BREA | KAWA | Y CHARAC | TERTSTIC |
| TIMING DEVICE CHA | RACT | FRISTIC | 1 | | | | | |
| 7277270 027202 0777 | | | 1 | Rate | d speed rpm | : | 2600 | |
| Rated speed rpm | : | 2100 | 1 | | quantity | • | | |
| Tolerance mm | • | 0.4 | 1 | | 1000 strokes | • | 13.0 | |
| Check | • | 0.7 | 1 | | rance | • | .5.5 | |
| tolerance mm | • | 0.7 | Γ | | 1000 strokes | | 2.0 | |
| Shutoff solenoid | • | 0.1 | \mathbf{I} | | k tolerance | , | | |
| Volt | : | 12 | I | | 1000s. | | 4.0 | |
| VOLL | • | 1 4 | I | | off solenoid | • | 4.0 | |
| Rated speed rpm | • | 900 | T | Volt | | • | 12 | |
| varen sheen thii | : | 700 | I | ۷۵۲۲ | | • | 12 | |
| | | | | | | | | |

| Rated speed rpm | : | 2400 | 4 |
|-------------------------------------|---|-------|--|
| Del. quantity | | | Rated speed rpm : 2100 |
| cm3/1000 strokes Tolerance | : | 30.0 | + Del. quantity + cm3/1000 strokes : 1.5 |
| cm3/1000 strokes | : | 3.0 | Tolerance |
| Check tolerance | | | - cm3/1000 strokes : 1.5 |
| cm3/1000s. | | 5.0 | + Spread |
| Shutoff solenoid Volt | | 12 | + cm3/1000 strokes : 5.0 + Check tolerance |
| VOCE | • | 12 | cm3/1000s. : 1.5 |
| Rated speed rpm | : | 2825 | + Spread |
| Del. quantity cm3/1000 strokes | • | 1.5 | + cm3/1000 strokes : 5.0 + Shutoff solenoid |
| Tolerance | • | ر ۱۰ | Volt : 12 |
| cm3/1000 strokes | | 1.5 | + |
| Check tolerance | _ | 4 5 | EL FOTO CHUTOFF |
| cm3/1000S. Shutoff solenoid | : | 1.5 | + ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP |
| Volt | : | 12 | + |
| | | 24.00 | + Rated speed rpm : 375 |
| Rated speed rpm Del. quantity | : | 2100 | + Del. quantity + cm3/1000 strokes : 1.5 |
| cm3/1000 strokes | : | 44.0 | + Tolerance |
| Tolerance | | 4.0 | + cm3/1000 strokes : 1.5 |
| cm3/1000 strokes Check tolerance | ; | 1.0 | + Check tolerance + cm3/1000S. : 1.5 |
| cm3/1000s. | : | 2.2 | Spread |
| Shutoff solenoid | | | - cm3/1000 strokes : 5.0 |
| Volt | : | 12 | + + FULL-LOAD STOP CONTROL LEVER |
| Rated speed rpm | : | 750 | FOLL-LOAD STOP CONTROL LEVER |
| Del. quantity | | | Rated speed rpm : 375 |
| cm3/1000 strokes | : | 41.5 | + Del. quantity + cm3/1000 strokes : 1.5 |
| Tolerance cm3/1000 strokes | : | 1.5 | + Tolerance |
| Shutoff solenoid | | | + cm3/1000 strokes : 1.5 |
| Volt | : | 12 | + Spread + cm3/1000 strokes : 5.0 |
| Rated speed rpm | : | 600 | + Check tolerance |
| Del. quantity | | | + cm3/1000s. : 1.5 |
| cm3/1000 strokes | : | 42.5 | + Spread + cm3/1000 strokes : 5.0 |
| Tolerance cm3/1000 strokes | : | 1.5 | T clie/ focus strokes : 5.0 |
| Check tolerance | | | + |
| cm3/1000s. | : | 3.0 | † |
| Shutoff solenoid Volt | : | 12 | Ī |
| | | | |
| Rated speed rpm | : | 1250 | + CHECKING LOAD-DEPENDENT + START OF DELIVERY |
| Del. quantity cm3/1000 strokes | : | 42.0 | T START OF BELLIVERT |
| Tolerance | | | DELIVERY DIFFERENCE |
| cm3/1000 strokes | : | 0.5 | + Rated speed rpm : 1500 |
| Check tolerance cm3/1000s. | : | 2.2 | + Rated speed rpm : 1500 + Del. quantity |
| Shutoff solenoid | | | + cm3/1000 strokes : −17.0 |
| Volt | : | 12 | + Tolerance + cm3/1000 strokes : 3.0 |
| | | | Check tolerance |
| MECHANICAL SHUTOF | F | | + cm3/1000s. : 5.0 |
| | | | |

Shutoff solenoid 12 Volt TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : -1.3Tolerance cm3/1000 strokes : 0.1 Check tolerance cm3/1000s. 0.1 Shutoff solenoid Volt 12 DELIVERY DIFFERENCE 1500 Rated speed rpm Del. quantity cm3/1000 strokes : 5.0 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 3.0 Shutoff solenoid 12 Volt PRESSURE DIFFERENCE 1500 Rated speed rpm Supply pomp pressure bar -1.2Tolerance hPa 0.3 Shutoff solenoid Volt 12 TIMING-DEVICE TRAVEL DIFFERENCE Rated speed rpm 1500 Tolerance mm 0.6 Check 0.7 tolerance mm Shutoff solenoid 12 Volt START TRANSITION 350 Rated speed rpm Del. quantity cm3/1000 strokes : 35.0 Tolerance cm3/1000 strokes 10.0 Shutoff solenoid 12 Volt 200 Rated speed rpm

Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
Dimension MS mm : 1,0
Tolerance mm : +-0,2

CONTROL LEVER POSITION

Control lever

position YA mm : 34,7..38,7

Control lever

position YB mm : 63,3..74,7

End of test-specification sheet

Del. quantity

cm3/1000 strokes :

70.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.06.96 Test oil : ISO 4113

Part no. : 0 460 414 159 Pump designation : VE4/11F2000R509-4

Customer-spec. information
Customer : ROVER
Motor : GEMINI 3
Power KW : 83.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 55

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 116

Opening pressure

bar : 207 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,45

Outlet : C

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1600

Aneroid pressure

hPa : 1000

Setting mm : 3.6
Tolerance mm : 0.2
Shutoff solenoid

Volt :

SUPPLY PUMP PRESSURE

Rated speed rpm : 1600

Aneroid pressure

hPa : 1000

Setting hPa : 6.8 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

24

Rated speed rpm : 1400

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 66.2

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 4.0

Shutoff solenoid

Volt : 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 37.8

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt : 24

Check tolerance

cm3/1000s. : 4.0

IDLE SETTING

Rated speed rpm : 350

| Del. quantity | | + Aneroid pressure | | |
|---------------------|---------------------|-------------------------------|--------------------|--|
| cm3/1000 strokes | : 11.5 | + hPa | : 1000 | |
| Tolerance | | 1 | | |
| cm3/1000 strokes | : 2.0 | ∔ SV travel mm | : 6.4 | |
| Shutoff solenoid | | + Tolerance mm | : 0.4 | |
| Volt | : 24 | + Check | | |
| Spread | . 27 | tolerance mm | : 0.9 | |
| cm3/1000 strokes | : 4.0 | Shutoff solenoid | . 0.7 | |
| Check tolerance | . 4.0 | | : 24 | |
| | . / 5 | † Volt | : 24 | |
| cm3/1000s. | : 4.5 | T | 4/00 | |
| | | Rated speed rpm | : 1400 | |
| | | + Aneroid pressure | | |
| FULL-LOAD SPEED R | EGULATION | + hPa | : 1000 | |
| | | + | | |
| Rated speed rpm | : 2200 | + SV travel mm | : 2.1 | |
| Pressure hPa | : 1000 | + Tolerance mm | : 0.4 | |
| Del. quantity | | + Check | | |
| cm3/1000 strokes | : 52.5 | + tolerance mm | : 0.9 | |
| Tolerance | _ | + Shutoff solenoid | | |
| cm3/1000 strokes | : 2.0 | + Volt | : 24 | |
| Shutoff solenoid | . 2.0 | 1 | . 27 | |
| Volt | : 24 | CLIDDLY DUMP DDECC | URE CHARACTERISTIC | |
| ٧٥٢٤ | . 24 | T SUPPLI PUMP PRESS | OKE CHARACIERISIIC | |
| OTANTANO FUEL AFI | TURNY | T Data dans dans dans | 2000 | |
| STARTING FUEL DEL | TAFKI | + Rated speed rpm | : 2000 | |
| | 4.0.0 | + Aneroid pressure | | |
| Rated speed rpm | : 100 | + hPa | : 1000 | |
| Del. quantity | | + Supply pomp | | |
| cm3/1000 strokes | : 98.0 | + pressure bar | : 8.0 | |
| Tolerance | | + Tolerance hPa | : 0.3 | |
| cm3/1000 strokes | : 1.0 | + Shutoff solenoid | | |
| Shutoff solenoid | | → Volt | : 24 | |
| Volt | : 24 | + | | |
| | | Rated speed rpm | : 1400 | |
| SET GRADUATED STAF | RTING DELTVERY | + Aneroid pressure | | |
| CONTROL LEVER, IDE | | + hPa | : 1000 | |
| JOHNNOE EETEN, 100 | | + Supply pomp | | |
| Rated speed rpm | : 2000 | + pressure bar | : 6.1 | |
| | . 2000 | Tolerance hPa | : 0.3 | |
| Tolerance | : 0.5 | | . 0.3 | |
| cm3/1000 strokes | : 0.5 | + Shutoff solenoid | . 2/ | |
| Shutoff solenoid | 24 | † Volt | : 24 | |
| Volt | : 24 | † | 4555 | |
| | | + Rated speed rpm | : 1000 | |
| | RTING FUEL DELIVERY | + | | |
| FULL-LOAD STOP CON | NTROL LEVER | + OVERFLOW QUANTITY | | |
| | | + | | |
| Rated speed rpm | : 100 | + Rated speed rpm | : 500 | |
| Del. quantity | | + Aneroid pressure | | |
| cm3/1000 strokes | : 45.0 | + hPa | : 1000 | |
| Tolerance | | + Overflow quantity | | |
| cm3/1000 strokes | : 1.0 | + ccm/10s | : 77.7 | |
| Shutoff solenoid | - | Tolerance | | |
| Volt | : 24 | + ccm/10s | : 22.2 | |
| | | 1 | | |
| | | + Check tolerance | | |
| | | | 22.2 | |
| | | T CCW/3116 | • // / | |
| TALLECTION DUMB TES | ST SPECIFICATIONS | + ccm/10s Shutoff salengid | : 22.2 | |
| INJECTION-PUMP TES | ST SPECIFICATIONS | + Shutoff solenoid | | |
| | | | : 22.2 | |
| INJECTION-PUMP TES | | Shutoff solenoid Volt | : 24 | |
| TIMING DEVICE CHAR | RACTERISTIC | + Shutoff solenoid | | |
| | | Shutoff solenoid Volt | : 24 | |

| Aneroid pressure | | 4000 | + | Shutoff solenoid | | 2, | |
|--------------------------------|--------|-------------------|----------|----------------------------------|-------|-------------|--|
| hPa | : | 1000 | † | Volt | : | 24 | |
| Overflow quantity | • | 405.0 | † | | | 2000 | |
| ccm/10s | ; | 125.0 | † | Rated speed rpm | : | 2000 | |
| Tolerance | | 14 / | † | Aneroid pressure | | 4000 | |
| ccm/10s | : | 41.6 | † | hPa | : | 1000 | |
| | | | † | Del. quantity | | 45.0 | |
| Check tolerance | | 14 1 | † | cm3/1000 strokes | : | 65.2 | |
| ccm/10s | : | 41.6 | † | Tolerance | | 2.0 | |
| Shutoff solenoid | | 37 | † | cm3/1000 strokes | : | 2.0 | |
| Volt | ; | 24 | † | Check tolerance | | 7.0 | |
| ALL THERY AND DOES | L-8111 | AV CHADACTEDICTIC | † | cm3/1000s. | : | 3.0 | |
| DELIVERY AND BREA | KAWA | AT CHARACTERISTIC | † | Shutoff solenoid | | 27 | |
| Dahad award ann | | 2200 | † | Volt | : | 24 | |
| Rated speed rpm | : | 2200 | Ť | Data day and and | | 000 | |
| Aneroid pressure | | 1000 | † | Rated speed rpm | : | 900 | |
| hPa | • | 1000 | Ť | Aneroid pressure hPa | | 1000 | |
| Del. quantity cm3/1000 strokes | | 52.5 | T | | • | 1000 | |
| | • | 22.3 | T | Del. quantity | | 47 7 | |
| Tolerance cm3/1000 strokes | | 2.0 | T | cm3/1000 strokes Tolerance | • | 63.3 | |
| Check tolerance | • | ۷.0 | I | cm3/1000 strokes | | 2.5 | |
| cm3/1000s. | • | 4.5 | I | Check tolerance | • | 4.5 | |
| Shutoff solenoid | • | 713 | 1 | cm3/1000s. | | 4.0 | |
| Volt | • | 24 | 1 | Shutoff solenoid | • | 7.0 | |
| 1000 | • | | 1 | Volt | • | 24 | |
| Rated speed rpm | : | 2400 | + | | • | | |
| Aneroid pressure | | | 1 | Rated speed rpm | : | 1400 | |
| hPa | : | 1000 | + | Aneroid pressure | | | |
| Del. quantity | | | + | hPa | : | 1000 | |
| cm3/1000 strokes | : | 16.0 | + | Del. quantity | | | |
| Check tolerance | | | + | cm3/1000 strokes | : | 66.2 | |
| cm3/1000s. | : | 6.0 | + | Tolerance | | | |
| Shutoff solenoid | | | + | cm3/1000 strokes | : | 0.5 | |
| Volt | : | 24 | + | Check tolerance | | | |
| | | 0.400 | + | cm3/1000s. | : | 2.5 | |
| Rated speed rpm | : | 2600 | + | Shutoff solenoid | | 2.4 | |
| Aneroid pressure | | 4000 | † | Volt | : | 24 | |
| hPa | : | 1000 | † | | | | |
| Del. quantity | | 1.5 | Ť | | | | |
| cm3/1000 strokes Tolerance | • | 1.0 | T | ELECTR. SHUTOFF | | | |
| cm3/1000 strokes | | 1.5 | I | CONTROL LEVER, ID | IF C | TOP | |
| Check tolerance | • | 1.0 | I | SOLATION ECACUT TO | 0 | . 01 | |
| cm3/1000s. | : | 1.5 | 1 | Rated speed rpm | : | 350 | |
| Shutoff solenoid | - | | 1 | Del. quantity | • | | |
| Volt | : | 24 | <u> </u> | cm3/1000 strokes | : | 1.5 | |
| | | | + | Tolerance | | | |
| Rated speed rpm | : | 800 | + | cm3/1000 strokes | : | 1.5 | |
| Aneroid pressure | | | + | Check tolerance | | | |
| hPa | : | 300 | + | cm3/1000s. | : | 1.5 | |
| | | | + | Spread | | <u> </u> | |
| LDA/ | | | + | cm3/1000 strokes | : | 5.0 | |
| HBA stroke mm | : | 6.4 | † | FILL 1 040 0700 000 | | | |
| Del. quantity | | / O C | † | FULL-LOAD STOP CO | MIKOL | LEVER | |
| cm3/1000 strokes | : | 48.0 | † | Dated anded man | | 350 | |
| Tolerance cm3/1000 strokes | | 0.5 | † | Rated speed rpm Del. quantity | : | 350 | |
| Check tolerance | • | 0.5 | I | cm3/1000 strokes | • | 1.5 | |
| cm3/1000s. | | 3.2 | I | 51107 1000 511 0KES | • | ر ۱۰ | |
| 511137 1 3 3 3 3 3 | • | J.L | ı | | | | |

| Tolerance cm3/1000 strokes | : | 1.5 | |
|---|---|---|--|
| Spread cm3/1000 strokes | : | 5.0 | |
| Check tolerance cm3/1000s. | : | 1.5 | |
| Spread cm3/1000 strokes | : | 5.0 | |
| IDLE DELIVERY | | | |
| Rated speed rpm | : | 500 | |
| Del. quantity cm3/1000 strokes | : | 1.5 | |
| Tolerance cm3/1000 strokes Check tolerance | : | 1.5 | |
| cm3/1000s. | : | 1.5 | |
| Shutoff solenoid Volt | : | 24 | |
| | | | |
| | | | |
| EXHAUST-GAS RECIR | CULA | TION | |
| Rated speed rpm | CULA | ATION 1000 | |
| Rated speed rpm Aneroid pressure hPa | | | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | | 1000 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 1000 1000 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 1000 1000 39.0 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 1000 1000 39.0 1.0 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 1000 1000 39.0 1.0 3.0 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt START TRANSITION Rated speed rpm | : | 1000 1000 39.0 1.0 3.0 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes | : | 1000 1000 39.0 1.0 3.0 24 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 1000 1000 39.0 1.0 3.0 24 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : | 1000 1000 39.0 1.0 3.0 24 350 50.0 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm | : | 1000 1000 39.0 1.0 3.0 24 350 50.0 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes | : | 1000 1000 39.0 1.0 3.0 24 350 50.0 20.0 | |
| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity | | 1000 1000 39.0 1.0 3.0 24 350 50.0 20.0 24 | |

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm 6.4 Dimension K mm : 3,3
Tolerance mm : +-0,1 Dimension KF mm : 8,4 Tolerance mm : +-0.2MS1 dimension mm : 1,45

Tolerance mm : +0,15/-0,1

POTENTIOMETER

SET

measurement

voltage Volt : 5,0
1. measurement

voltage Volt : 3,1

MICROSWITCH

SET

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 42,3..46,3

Control lever

position YB mm : 50,0..61,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.09.95 Test oil : ISO 4113

Part no. : 0 460 494 341 Pump designation : VE4/9F2250R513

Customer-spec. information Customer : PSA

Motor : XUD 9 TF-Y Power KW : 67.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,3
Tolerance mm : +-0,02
Outlet : A

outtet . A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250 Aneroid pressure

hPa : 1000

Setting mm : 3.6
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000

Setting hPa : 5.6 Tolerance hPa : 0.3

Shutoff solenoid Volt :

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

Rated speed rpm : 1250
Aneroid pressure

hPa : 1000

Del. quantity cm3/1000 strokes : 54.0 Tolerance

cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 2.0

Check tolerance cm3/1000s. : 3.0

Shutoff solenoid Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : 0.5 Shutoff solenoid

Volt : 12 Check tolerance

cm3/1000s. : 3.0

| - | Rated speed rpm : 1250 |
|--|---|
| HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING | Del. quantity cm3/1000 strokes : -0.2 |
| Rated speed rpm : 490 | Tolerance cm3/1000 strokes : 0.1 |
| Del. quantity cm3/1000 strokes : 8.5 | Shutoff solenoid Volt : 12 |
| Tolerance - cm3/1000 strokes : 0.5 | TIMING-DEVICE TRAVEL DIFFERENCE |
| Shutoff solenoid | - |
| - | Rated speed rpm : 1250 Del. quantity |
| FULL-LOAD SPEED REGULATION | - cm3/1000 strokes : -1.0 - Tolerance |
| Rated speed rpm : 2575 | cm3/1000 strokes : 0.1 |
| Pressure hPa : 1000 - Del. quantity - | - Shutoff solenoid - Volt : 12 |
| cm3/1000 strokes : 14.0 - Tolerance - | |
| cm3/1000 strokes : 2.0 - Shutoff solenoid - | INJECTION—PUMP TEST SPECIFICATIONS |
| Volt : 12 - | TIMING DEVICE CHARACTERISTIC |
| STARTING FUEL DELIVERY | - - Rated speed rpm : 2000 - Aneroid pressure |
| Rated speed rpm : 150 Del. quantity | - hPa : 1000 |
| cm3/1000 strokes : 52.0 | - SV travel mm : 6.5 |
| Tolerance cm3/1000 strokes : 15.0 | - Tolerance mm : 0.4 - Check |
| Shutoff solenoid Volt : 12 | - tolerance mm : 0.7 - Shutoff solenoid |
| · | - Volt : 12 |
| SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP | - Rated speed rpm : 750 |
| Rated speed rpm : 200 Del. quantity | - Aneroid pressure - hPa : 1000 |
| cm3/1000 strokes : 53.0 | - SV travel mm : 1.5 |
| Tolerance cm3/1000 strokes : 3.0 | - Tolerance mm : 0.4 - Check |
| Shutoff solenoid Volt : 12 | - tolerance mm : 0.7 - Shutoff solenoid |
| 1 | - Volt : 12 |
| LOAD-DEPENDENT START OF DELIVERY SETTING | - Rated speed rpm : 1250 |
| DELIVERY DIFFERENCE + | SUPPLY PUMP PRESSURE CHARACTERISTIC |
| + | Rated speed rpm : 2000 |
| Rated speed rpm : 1250 + Del. quantity + | - Aneroid pressure - hPa : 1000 |
| cm3/1000 strokes : -10.0 | Supply pomp pressure bar : 7.5 |
| cm3/1000 strokes : 1.0 | Tolerance hPa : 0.3 |
| Shutoff solenoid + 12 + 12 | Shutoff solenoid Volt : 12 |
| PRESSURE DIFFERENCE | Rated speed rpm : 750 |
| + | • |

| Aneroid pressure hPa | : | 1000 | | + | Shutoff solenoid Volt | : | 12 |
|-------------------------------------|-----|------------|---------|--------------|-------------------------------------|---|------|
| Supply pomp pressure bar | : | 4.3 | | Ī | Rated speed rpm | : | 2750 |
| Tolerance hPa | : | 0.3 | | + | Aneroid pressure | • | |
| Shutoff solenoid | | 40 | | + | hPa | : | 1000 |
| Volt | : | 12 | | † | Del. quantity cm3/1000 strokes | : | 3.0 |
| OVERFLOW QUANTITY | , | | | I | Tolerance | • | 5.0 |
| | | | | + | cm3/1000 strokes | : | 3.0 |
| Rated speed rpm | : | 2150 | | + | Check tolerance | | 7.0 |
| Aneroid pressure hPa | | 1000 | | İ | cm3/1000s. Shutoff solenoid | : | 3.0 |
| Overflow quantity | • | ,,,,,, | | 1 | Volt | : | 12 |
| ccm/10s | : | 97.2 | | + | | | |
| Tolerance ccm/10s | | 41.6 | | 1 | Rated speed rpm Aneroid pressure | : | 750 |
| CCIII/ 103 | • | 41.0 | | Į | hPa | : | 350 |
| Check tolerance | | | | + | Del. quantity | | |
| ccm/10s | : | 41.6 | | + | | : | 46.0 |
| Shutoff solenoid Volt | | 12 | | Ī | Tolerance cm3/1000 strokes | : | 0.5 |
| 1011 | • | , - | | | Check tolerance | • | 0.5 |
| Rated speed rpm | : | 500 | | + | cm3/1000s. | : | 3.0 |
| Aneroid pressure hPa | • | 1000 | | 1 | Shutoff solenoid Volt | | 12 |
| Overflow quantity | • | 1000 | | 1 | VOCC | • | 1 6 |
| ccm/10s | : | 63.8 | | + | Rated speed rpm | : | 2150 |
| Tolerance ccm/10s | | 22.2 | | † | Aneroid pressure hPa | | 1000 |
| CCIII7 TUS | • | ۲۲.۲ | | I | Del. quantity | • | 1000 |
| Check tolerance | | | | 1 | cm3/1000 strokes | : | 50.1 |
| ccm/10s | : | 22.2 | | + | Tolerance | | 4.0 |
| Shutoff solenoid Volt | • | 12 | | Ī | cm3/1000 strokes Check tolerance | : | 1.0 |
| | • | | | + | cm3/1000s. | : | 2.2 |
| DELIVERY AND BREA | KAW | AY CHARACT | ERISTIC | + | Shutoff solenoid | | 45 |
| Rated speed rpm | : | 2575 | | 1 | Volt | : | 12 |
| Aneroid pressure | • | בווט | | Ţ | Rated speed rpm | : | 2000 |
| hPa | : | 1000 | | + | Aneroid pressure | | |
| Del. quantity cm3/1000 strokes | | 14.0 | | † | hPa | : | 1000 |
| Tolerance | : | 14.0 | | I | Del. quantity cm3/1000 strokes | : | 52.0 |
| cm3/1000 strokes | : | 2.0 | | + | Tolerance | • | |
| Check tolerance | | / 0 | | + | cm3/1000 strokes | : | 1.0 |
| cm3/1000S. Shutoff solenoid | : | 4.0 | | Ī | Check tolerance cm3/1000s. | | 2.2 |
| Volt | : | 12 | | 1 | Shutoff solenoid | • | |
| | | 2775 | | + | Volt | : | 12 |
| Rated speed rpm Aneroid pressure | : | 2375 | | İ | Rated speed rpm | : | 500 |
| hPa | : | 1000 | | 1 | Aneroid pressure | • | 500 |
| Del. quantity | | 70.0 | | + | hPa | : | 1000 |
| cm3/1000 strokes Tolerance | : | 39.0 | | İ | Del. quantity cm3/1000 strokes | : | 48.3 |
| cm3/1000 strokes | : | 5.0 | | 1 | Tolerance | • | 70.5 |
| Check tolerance | | | | + | cm3/1000 strokes | : | 1.5 |
| cm3/1000s. | : | 6.0 | | İ | Check tolerance cm3/1000s. | : | 3.0 |
| | | | | Ŧ | Um3/ 10000. | • | 5.0 |

| Shutoff solenoid | . 42 | + | | |
|--------------------------------------|---------|--|------|------------|
| Volt | : 12 | + DELIVERY DIFFERE | | |
| Rated speed rpm Aneroid pressure | | + Rated speed rpm + Del. quantity | : | 1250 |
| hPa Del. quantity | : 1000 | cm3/1000 strokes Tolerance | : | -13.0 |
| cm3/1000 strokes Tolerance | : 54.0 | - cm3/1000 strokes - Check tolerance | : | 2.0 |
| cm3/1000 strokes Check tolerance | : 0.5 | cm3/1000s. + Shutoff solenoid | | 5.0 |
| cm3/1000S. Shutoff solenoid | | + Volt | : | 12 |
| Volt | : 12 | TIMING-DEVICE TR | AVEL | DIFFERENCE |
| | · | | : | 1250 |
| MECHANICAL SHUTOF | | + Del. quantity + cm3/1000 strokes | : | -1.0 |
| Rated speed rpm Aneroid pressure | | + Tolerance + cm3/1000 strokes | : | 0.1 |
| hPa Del. quantity | : 1000 | + Check tolerance + cm3/1000s. | : | 0.1 |
| cm3/1000 strokes Tolerance | : 1.5 | + Shutoff solenoid + Volt | • | 12 |
| cm3/1000 strokes Check tolerance | : 1.5 | DELIVERY DIFFEREN | ICE. | · - |
| cm3/1000s. | : 1.5 | + | | 1250 |
| Shutoff solenoid Volt | : 12 | + Rated speed rpm Del. quantity | | |
| | | | | |
| ELECTR. SHUTOFF CONTROL LEVER, ID | LE STOP | + cm3/1000 strokes + Check tolerance | : | 3.0 |
| Rated speed rpm | : 440 | + cm3/1000s. + Shutoff solenoid | : | 3.0 |
| Del. quantity cm3/1000 strokes | | + Volt | : | 12 |
| Folerance | | PRESSURE DIFFEREN | ICE | |
| Check tolerance | | Rated speed rpm | : | 1250 |
| cm3/1000s. | | + Supply pomp + pressure bar + Tolerance hPa | : | -1.1 |
| FULL-LOAD STOP CO | | + Tolerance hPa + Shutoff solenoid | : | |
| Rated speed rpm Del. quantity | | + Volt | : | 12 |
| cm3/1000 strokes Tolerance | : 1.5 | TIMING-DEVICE TRA | VEL | DIFFERENCE |
| :m3/1000 strokes Check tolerance | : 1.5 | Rated speed rpm Tolerance mm | : | 1250 |
| m3/1000s. | : 1.5 | + Check | | |
| | | tolerance mm Shutoff solenoid | | |
| | | † Volt | : | 12 |
| | | + | | |
| | | EXHAUST-GAS RECIR | CUL | ATION |

| | Aneroid | pressure |
|--|---------|----------|
|--|---------|----------|

| hPa | : | 1000 |
|-----|-------|------|
| N-1 | | |

Del. quantity cm3/1000 strokes : 17.8

Tolerance cm3/1000 strokes : 1.0

Check tolerance

cm3/1000s. : 4.0 Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 380

Del. quantity

cm3/1000 strokes : 35.0 Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
Dimension MS mm : 1,2

Tolerance mm : +0.2

MICROSWITCH

SET

mm : 0,8...3,0

: ARF 12,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.09.95 Edition : ISO 4113 Test oil

: 0 460 494 371 Part no. Pump designation : VE4/9F2250R513-1

Customer-spec. information

: PSA Customer

: XUD 9 TF/Y Motor Power KW 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C 45 Tolerance °C 1

Overflow

0.55 restriction mm

0.35 Inlet press. bar :

Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00

x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,3 Tolerance mm : +-0.02

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250

Aneroid pressure

1000

3.6 Setting mm Tolerance mm 0.2 Shutoff solenoid

Volt

SUPPLY PUMP PRESSURE

Rated speed pm 1250

Aneroid pressure

hPa 1000

Setting hPa 5.6 Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

Rated speed rpm : 1250

Aneroid pressure

hPa 1000

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes :

37.0

Tolerance

cm3/1000 strokes : Shutoff solenoid

0.5

Volt

12

Check tolerance cm3/1000s.

3.0

| | | + Rated speed rpm | : 1250 |
|--|---------------------|---|---------------------|
| HOUSING-FIXED IDLE RESIDUAL QUANTITY | | <pre>→ Del. quantity → cm3/1000 strokes</pre> | s : -0.2 |
| Rated speed rpm | : 490 | + Tolerance + cm3/1000 strokes | |
| Del. quantity cm3/1000 strokes | : 8.5 | + Shutoff solenoid + Volt | d : 12 |
| Tolerance cm3/1000 strokes | : 0.5 | TIMING-DEVICE TR | RAVEL DIFFERENCE |
| Shutoff solenoid Volt | : 12 | Rated speed rpm | |
| FULL-LOAD SPEED REG | GULATION | Del. quantity cm3/1000 strokes | |
| Rated speed rpm | : 2575 | Tolerance cm3/1000 strokes | |
| Pressure hPa Del. quantity | | + Shutoff solenoid + Volt | : 12 |
| cm3/1000 strokes : Tolerance | | T.U.S.T.T.O.U. D.UMD. T. | |
| cm3/1000 strokes : Shutoff solenoid | | + | TEST SPECIFICATIONS |
| Volt : | : 12 | TIMING DEVICE CHA | |
| STARTING FUEL DELIN | | Rated speed rpm Aneroid pressure | • |
| Rated speed rpm : Del. quantity | | + hPa + | : 1000 |
| cm3/1000 strokes : Tolerance | : 52.0 | + SV travel mm + Tolerance mm | : 6.5 : 0.4 |
| cm3/1000 strokes : Shutoff solenoid | : 15.0 | + Check + tolerance mm | |
| Volt : | : 12 | + Shutoff solenoid + Volt | : 12 |
| SET GRADUATED START CONTROL LEVER, IDLE | TING DELIVERY STOP | SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | |
| Rated speed rpm : Del. quantity | : 200 | hPa | : 1000 |
| cm3/1000 strokes : Tolerance | 53.0 | SV travel mm Tolerance mm | : 1.5 : 0.4 |
| cm3/1000 strokes : Shutoff solenoid | 3.0 | Check tolerance mm | : 0.7 |
| Volt : | 12 | Shutoff solenoid Volt | |
| LOAD-DEPENDENT STAR | RT OF DELIVERY | + | SURE CHARACTERISTIC |
| SETTING | - | Rated speed rpm | : 2000 |
| DELIVERY DIFFERENCE | : | Aneroid pressure | |
| Rated speed rpm : Del. quantity | 1250 | Supply pomp pressure bar | : 7.5 |
| cm3/1900 strokes : Tolerance | -10.0 | Tolerance hPa Shutoff solenoid | : 0.3 |
| cm3/1000 strokes : Shutoff solenoid | 1.0 | Volt | : 12 |
| Volt : | 12 | Rated speed rpm Aneroid pressure | : 750 |
| PRESSURE DIFFERENCE | - - - | hPa | : 1000 |

| Supply pomp pressure bar | | 4.3 | | † | Rated speed rpm Aneroid pressure | : | 2750 |
|-------------------------------------|--|-----------|----------|----------|-------------------------------------|---|------|
| Tolerance hPa | : | 0.3 | | Ŧ | hPa | : | 1000 |
| Shutoff solenoid Volt | : | 12 | | ‡ | Del. quantity cm3/1000 strokes | : | 3.0 |
| | - | _ | | + | Tolerance | | |
| OVERFLOW QUANTITY | | | | ‡ | cm3/1000 strokes Check tolerance | : | 3.0 |
| Rated speed rpm Aneroid pressure | : | 2150 | | + | cm3/1000s. Shutoff solenoid | : | 3.0 |
| hPa | : | 1000 | | Ŧ | Volt | : | 12 |
| Overflow quantity ccm/10s | : | 97.2 | | 1 | Rated speed rpm | : | 750 |
| Tolerance | | | | + | Aneroid pressure | | |
| ccm/10s | : | 41.6 | | ‡ | hPa | : | 350 |
| Check tolerance ccm/10s | | 41.6 | | + | LDA/ HBA stroke mm | | 5,9 |
| Shutoff solenoid | • | | | Ŧ | Del. quantity | • | • |
| Volt | : | 12 | | <u>†</u> | cm3/1000 strokes Tolerance | : | 46.0 |
| Rated speed rpm | : | 500 | | + | cm3/1000 strokes | : | 0.5 |
| Aneroid pressure hPa | : | 1000 | | ‡ | Check tolerance cm3/1000s. | : | 3.0 |
| Overflow quantity | | 63.8 | | + | Shutoff solenoid | | |
| ccm/10s Tolerance | : | 03.0 | | # | Volt | : | 12 |
| ccm/10s | : | 22.2 | | <u>†</u> | Rated speed rpm Aneroid pressure | : | 2150 |
| Check tolerance | | | | Ŧ | hPa | : | 1000 |
| ccm/10s Shutoff solenoid | : | 22.2 | | ‡ | Del. quantity cm3/1000 strokes | : | 50.1 |
| Volt | : | 12 | | + | Tolerance | | |
| DELIVERY AND BREAK | <aw <="" td=""><td>AY CHARAC</td><td>TERISTIC</td><td>Ŧ</td><td>cm3/1000 strokes Check tolerance</td><td>:</td><td>1.0</td></aw> | AY CHARAC | TERISTIC | Ŧ | cm3/1000 strokes Check tolerance | : | 1.0 |
| Rated speed rpm | : | 2575 | | <u>†</u> | cm3/1000s. Shutoff solenoid | : | 2.2 |
| Ameroid pressure | • | | | + | Volt | : | 12 |
| hPa Del. quantity | : | 1000 | | ‡ | Rated speed rpm | : | 2000 |
| cm3/1000 strokes | : | 14.0 | | + | Aneroid pressure | | |
| Tolerance cm3/1000 strokes | : | 2.0 | | Ţ | hPa Del. quantity | : | 1000 |
| Check tolerance cm3/1000S. | | 4.0 | | † | cm3/1000 strokes Tolerance | : | 52.0 |
| Shutoff solenoid | • | | | Ŧ | cm3/1000 strokes | : | 1.0 |
| Volt | : | 12 | | ‡ | Check tolerance cm3/1000s. | : | 2.2 |
| Rated speed rpm | : | 2375 | | + | Shutoff solenoid | | |
| Aneroid pressure hPa | : | 1000 | | Ŧ | Volt | : | 12 |
| Del. quantity cm3/1000 strokes | | 39.0 | | <u>†</u> | Rated speed rpm Aneroid pressure | : | 500 |
| Tolerance | | | | + | hPa | : | 1000 |
| cm3/1000 strokes Check tolerance | : | 5.0 | | ‡ | Del. quantity cm3/1000 strokes | : | 48.3 |
| cm3/1000s. | : | 6.0 | | + | Tolerance | | 1.5 |
| Shutoff solenoid Volt | : | 12 | | Ţ | cm3/1000 strokes Check tolerance | : | |
| | | | | + | cm3/1000s. | : | 3.0 |

| Shutoff solenoid Volt | : 12 | + + DELIVERY DIFFEREN | NCE |
|--|-----------|--|-----------------|
| Rated speed rpm | | Rated speed rpm | |
| Aneroid pressure hPa Del. quantity | : 1000 | + Del. quantity + cm3/1000 strokes + Tolerance | : -13.0 |
| cm3/1000 strokes Tolerance | : 54.0 | cm3/1000 strokes Check tolerance | : 2.0 |
| cm3/1000 strokes Check tolerance | : 0.5 | cm3/1000s. Shutoff solenoid | |
| cm3/1000s. Shutoff solenoid | | Volt | : 12 |
| Volt | : 12 | + TIMING-DEVICE TRA | WEL DIFFERENCE |
| MECHANICAL SHUTOF | F | Rated speed rpm Del. quantity | |
| Rated speed rpm | | + cm3/1000 strokes + Tolerance | |
| Aneroid pressure hPa | : 1000 | + cm3/1000 strokes Check tolerance | |
| Del. quantity cm3/1000 strokes | : 1.5 | + cm3/1000s. + Shutoff solenoid | |
| Tolerance cm3/1000 strokes Check tolerance | | + Volt + DELIVERY DIFFEREN | : 12 |
| cm3/1000S. Shutoff solenoid | : 1.5 | + Rated speed rpm | |
| Volt | : 12 | Del. quantity cm3/1000 strokes | |
| ELECTR. SHUTOFF | | Tolerance cm3/1000 strokes | |
| CONTROL LEVER, ID | | Check tolerance cm3/1000s. | |
| Rated speed rpm Del. quantity | | + Shutoff solenoid + Volt | : 12 |
| cm3/1000 strokes Tolerance | | + + PRESSURE DIFFEREN | CE |
| cm3/1000 strokes Check tolerance | | + Rated speed rpm | : 1250 |
| cm3/1000s. | | Supply pomp pressure bar | : -1.1 : 0.2 |
| FULL-LOAD STOP CO | | † Tolerance hPa + Shutoff solenoid + Volt | : 0.2 |
| Rated speed rpm Del. quantity cm3/1000 strokes | | TIMING-DEVICE TRA | |
| Tolerance cm3/1000 strokes | | Rated speed rpm | |
| Check tolerance cm3/1000s. | : 1.5 | Tolerance mm Check | : 0.2 |
| | . , , , , | tolerance mm Shutoff solenoid | : 0.7 |
| | | + Volt | : 12 |
| | | EXHAUST-GAS RECIR | CULATION |
| CHECKING LOAD-DEP START OF DELIVERY | | Rated speed rpm | : 1250 |

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 23.8

Tolerance

cm3/1000 strokes : 1.0

Check tolerance

cm3/1000s. : 4.0

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 380

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 5,9

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2

Dimension MS nm : 1,3
Tolerance mm : +-0,2

MICROSWITCH

SET

mm : 0,8...3,0

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 28,8..32,8

Control lever

position YB mm : 69,2..80,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.09.95 : ISO 4113 Test oil

: 0 460 494 383 Part no. Pump designation: VE4/9F2250R513-2

Customer-spec. information Customer : PSA

: XUD 9 TF-Y Motor Power KW 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250 Aneroid pressure

1000 hPa

Setting mm 3.6 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250 Aneroid pressure

hPa 1000

5.6 Setting hPa Tolerance hPa 0.3 : Shutoff solenoid

Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

Rated speed rpm : 1250 Aneroid pressure hPa 1000 Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. 3.0 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Valt Check tolerance

cm3/1000s. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 490

Del. quantity cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 0.5

| Shutoff solenoid | 1 | | |
|--------------------------------------|------------------|--------------------------------------|-------------------|
| Volt | : 12 | Rated speed rpm Del. quantity | : 1250 |
| FULL-LOAD SPEED F | REGULATION | cm3/1000 strokes Tolerance | : -1.0 |
| Rated speed rpm Pressure hPa | : 2575 : 1000 | cm3/1000 strokes Shutoff solenoid | : 0.1 |
| Del. quantity cm3/1000 strokes | + | Volt | : 12 |
| Tolerance cm3/1000 strokes | + | TALLECTION DUMP TE | OT ODECTETOATIONS |
| Shutoff solenoid | + | INJECTION-PUMP TES | |
| Volt | : 12 | TIMING DEVICE CHA | |
| STARTING FUEL DEL | _IVERY + | Rated speed rpm Aneroid pressure | : 2000 |
| Rated speed rpm Del. quantity | : 150 | hPa | : 1000 |
| cm3/1000 strokes Tolerance | : 52.0 | SV travel mm | : 6.5 : 0.4 |
| cm3/1000 strokes | | Tolerance mm Check | |
| Shutoff solenoid Volt | : 12 | tolerance mm Shutoff solenoid | : 0.7 |
| SET GRADUATED STA | ARTING DELIVERY | Volt | : 12 |
| CONTROL LEVER, ID | | Rated speed rpm Aneroid pressure | : 750 |
| Rated speed rpm Del. quantity | : 200 | hPa | : 1000 |
| cm3/1000 strokes | : 53.0 | SV travel mm | : 1.5 |
| Tolerance cm3/1000 strokes | : 3.0 | Tolerance mm Check | : 0.4 |
| Shutoff solenoid Volt | : 12 | tolerance mm Shutoff solenoid | : 0.7 |
| | <u>†</u> | Volt | : 12 |
| LOAD-DEPENDENT ST SETTING | TART OF DELIVERY | SUPPLY PUMP PRESSU | |
| DELIVERY DIFFEREN | ICE ‡ | Rated speed rpm Aneroid pressure | : 2000 |
| Rated speed rpm | : 1250 | hPa Supply pomp | : 1000 |
| Del. quantity cm3/1000 strokes | : -10.0 | pressure bar Tolerance hPa | : 7.5 : 0.3 |
| Tolerance | } | Shutoff solenoid | |
| cm3/1000 strokes Shutoff solenoid | + | Volt | : 12 |
| Volt | : 12 | Rated speed rpm Aneroid pressure | : 750 |
| PRESSURE DIFFEREN | ICE + | hPa Supply pomp | : 1000 |
| Rated speed rpm Del. quantity | : 1250 | pressure bar Tolerance hPa | : 4.3 : 0.3 |
| cm3/1000 strokes Tolerance | : -0.2 | Shutoff solenoid Volt | : 12 |
| cm3/1000 strokes Shutoff solenoid | : 0.1 | OVERFLOW QUANTITY | . , , , |
| Volt | : 12 | | . 2456 |
| TIMING-DEVICE TRA | VEL DIFFERENCE + | Rated speed rpm | : 2150 |

| Ananaid anagauna | | | ı | Shutoff salamaid | | |
|--|--------------|--------------|--------------|-------------------------------------|---|------|
| Aneroid pressure hPa | : 1000 | | Ŧ | Shutoff solenoid Volt | : | 12 |
| Overflow quantity ccm/10s Tolerance | : 97.2 | | Ŧ | Rated speed rpm | : | 750 |
| ccm/10s | : 41.6 | | Ī | Aneroid pressure hPa | : | 350 |
| Check tolerance | | | Ŧ | LDA/ | | |
| ccm/10s Shutoff solenoid | : 41.6 | | <u> </u> | HBA stroke mm Del. quantity | : | 5,9 |
| Volt | : 12 | | 1 | | : | 46.0 |
| Rated speed rpm | : 500 | | + | cm3/1000 strokes | : | 0.5 |
| Aneroid pressure hPa | : 1000 | | Ŧ | Check tolerance cm3/1000s. | : | 3.0 |
| Overflow quantity ccm/10s | : 63.8 | | ‡ | Shutoff solenoid Volt | : | 12 |
| Tolerance ccm/10s | : 22.2 | | Ì | Rated speed rpm | : | 2150 |
| | | | 7 | Aneroid pressure | • | |
| Check tolerance ccm/10s | : 22.2 | | İ | hPa Del. quantity | : | 1000 |
| Shutoff solenoid | | | + | cm3/1000 strokes | : | 50.1 |
| Volt | : 12 | - | | Tolerance cm3/1000 strokes | : | 1.0 |
| DELIVERY AND BREAK | KAWAY CHARAC | CTERISTIC - | ‡ | Check tolerance cm3/1000s. | • | 2.2 |
| Rated speed rpm | : 2575 | | + | Shutoff solenoid Volt | | 12 |
| Aneroid pressure hPa | : 1000 | | Ţ | VOLL | • | 12 |
| Del. quantity cm3/1000 strokes | : 14.0 | | † | Rated speed rpm Aneroid pressure | : | 2000 |
| Tolerance | | - | + | hPa | : | 1000 |
| cm3/1000 strokes Check tolerance | : 2.0 | - | ‡ | Del. quantity cm3/1000 strokes | : | 52.0 |
| cm3/1000S. Shutoff solenoid | : 4.0 | - | <u> </u> | Tolerance cm3/1000 strokes | : | 1.0 |
| Volt | : 12 | - | + | Check tolerance cm3/1000s. | | 2.2 |
| Rated speed rpm | : 2375 | - | Ŧ | Shutoff solenoid | • | |
| Aneroid pressure hPa | : 1000 | - | ‡ | Volt | : | 12 |
| Del. quantity cm3/1000 strokes | | - | + | Rated speed rpm Aneroid pressure | : | 500 |
| Tolerance | | - | F | hPa | : | 1000 |
| cm3/1000 strokes Check tolerance | : 5.0 | - - | | Del. quantity cm3/1000 strokes | : | 48.3 |
| cm3/1000s. Shutoff solenoid | : 6.0 | - | Ì | Tolerance cm3/1000 strokes | | 1.5 |
| Volt | : 12 | - | - | Check tolerance cm3/1000s. | • | 3.0 |
| Rated speed rpm | : 2750 | 7 | F | Shutoff solenoid | • | |
| Aneroid pressure hPa | : 1000 | - | - | Volt | : | 12 |
| Del. quantity cm3/1000 strokes | : 3.0 | 4 | | Rated speed rpm Aneroid pressure | : | 1250 |
| Tolerance cm3/1000 strokes | | 7 | } | hPa Del. quantity | : | 1000 |
| Check tolerance cm3/1000s. | : 3.0 | | - | cm3/1000 strokes | : | 54.0 |
| J.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | I | | | |

| Tolerance | | + Check tolerance |
|---|---|-----------------------------------|
| cm3/1000 strokes | : 0.5 | + cm3/1000s. : 5.0 |
| Check tolerance | | Shutoff solenoid |
| cm3/1000s. | : 2.2 | + Volt : 12 |
| Shutoff solenoid | | |
| | : 12 | TIMING DEVICE TRAVEL DIFFERENCE |
| Volt | ; 12 | TIMING-DEVICE TRAVEL DIFFERENCE |
| | | T Dated and and 1250 |
| 115011111111111111111111111111111111111 | | Rated speed rpm : 1250 |
| MECHANICAL SHUTO | FF | + Del. quantity |
| | | + cm3/1000 strokes : −1.0 |
| Rated speed rpm | | † Tolerance |
| Aneroid pressure | | + cm3/1000 strokes : 0.1 |
| hPa | : 1000 | + Check tolerance |
| Del. quantity | | + cm3/1000s. : 0.1 |
| cm3/1000 strokes | : 1.5 | + Shutoff solenoid |
| Tolerance | • | + Volt : 12 |
| | : 1.5 | T VOLC . 12 |
| cm3/1000 strokes | 1.0 | T DEL TUENO ATECEDENACE |
| Check tolerance | . 4 - | + DELIVERY DIFFERENCE |
| cm3/1000s. | : 1.5 | † |
| Shutoff solenoid | | + Rated speed rpm : 1250 |
| Volt | : 12 | + Del. quantity |
| | | + cm3/1000 strokes : 5.0 |
| | | |
| ELECTR. SHUTOFF | | + cm3/1000 strokes : 3.0 |
| CONTROL LEVER, IL | NE STOP | - Check tolerance |
| CONTINUE CONTENT IN | 7EE 0101 | + cm3/1000s. : 3.0 |
| Ostad award awa | . //0 | |
| Rated speed rpm | : 440 | + Shutoff solenoid |
| Del. quantity | | + Volt : 12 |
| cm3/1000 strokes | : 1.5 | + |
| Tolerance | | + PRESSURE DIFFERENCE |
| cm3/1000 strokes | : 1.5 | + |
| Check tolerance | | Rated speed rpm : 1250 |
| cm3/1000s. | : 1.5 | - Supply pomp |
| | | pressure bar : -1.1 |
| FULL-LOAD STOP CO | NITON LEVED | Tolerance hPa : 0.2 |
| FULL-LUMD STOP CC | NIKOL LEVER | Shutoff solenoid |
| 5 | 4.40 | |
| Rated speed rpm | : 440 | + Volt : 12 |
| Del. quantity | | † |
| cm3/1000 strokes | : 1.5 | + TIMING-DEVICE TRAVEL DIFFERENCE |
| Tolerance | | + |
| cm3/1000 strokes | : 1.5 | + Rated speed rpm : 1250 |
| Check tolerance | · • • | + Tolerance mm : 0.2 |
| cm3/1000S. | : 1.5 | + Check |
| 5.11.27 10000 t | • 1.5 | tolerance mm : 0.7 |
| | | Shutoff solenoid |
| | | |
| | | + Volt : 12 |
| | | † |
| | | |
| | | † EXHAUST-GAS RECIRCULATION |
| CHECKING LOAD-DEP | | + |
| START OF DELIVERY | • | Rated speed rpm : 1250 |
| | | Aneroid pressure |
| DELIVERY DIFFEREN | ICE | + hPa : 1000 |
| | · • • | Del. quantity |
| Datad sacad ma- | : 1250 | - cm3/1000 strokes : 17.8 |
| Rated speed rpm | 1430 | |
| Del. quantity | 47.0 | + Tolerance |
| cm3/1000 strokes | : -13.0 | + cm3/1000 strokes : 1.0 |
| Tolerance | | + Check tolerance |
| cm3/1000 strokes | : 2.0 | + cm3/1000s. : 4.0 |
| | | + |
| | | • |

Shutoff solenoid

12 Volt

START TRANSITION

Rated speed rpm : 380

Del. quantity cm3/1000 strokes : 35.0

Tolerance

10.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm 5,9

: 3,3 Dimension K mm Tolerance mm : +-0,1 Dimension KF mm : 6,0 Tolerance mm : +-0,2 : 1,3 Dimension MS mm : +-0,2 Tolerance mm

MICROSWITCH

SET

: 0,8...3,0 mm

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 28,8..32,8

Control lever

position YB mm : 69,2..80,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.09.95 Test oil : ISO 4113

Part no. : 0 460 494 384 Pump designation : VE4/9F2250R513-3

Customer-spec. information Customer : PSA

Motor : XUD 9 TF/Y
Power KW : 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000

Setting mm : 3.6
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000

Setting hPa : 5.6
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250 Aneroid pressure 1000 hPa Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 2.0 Check tolerance cm3/1000s.3.0 Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 37.0
Tolerance
cm3/1000 strokes : 0.5
Shutoff solenoid
Volt : 12
Check tolerance
cm3/1000s. : 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 490
Del. quantity
cm3/1000 strokes : 8.5
Tolerance
cm3/1000 strokes : 0.5

| Chinade and analy | 1 |
|--|---|
| Shutoff solenoid Volt : 12 | + Rated speed rpm : 1250 |
| vott . 12 | + Del. quantity |
| FULL-LOAD SPEED REGULATION | + cm3/1000 strokes : -1.0 |
| FOLL LOAD SPEED REGULATION | + Tolerance |
| Rated speed rpm : 2575 | - cm3/1000 strokes : 0.1 |
| Pressure hPa : 1000 | Shutoff solenoid |
| Del. quantity | + Volt : 12 |
| cm3/1000 strokes : 14.0 | T vott . 12 |
| Tolerance | T |
| cm3/1000 strokes : 2.0 | INJECTION-PUMP TEST SPECIFICATIONS |
| Shutoff solenoid | T INDECTION FOR TEST SPECIFICATIONS |
| Volt : 12 | TIMING DEVICE CHARACTERISTIC |
| . 12 | TITING PEVICE CHANACTERISTIC |
| STARTING FUEL DELIVERY | + Rated speed rpm : 2000 |
| OTTACLE OF THE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE OFFICE O | Aneroid pressure |
| Rated speed rpm : 150 | hPa : 1000 |
| Del. quantity | 1,1000 |
| cm3/1000 strokes : 52.0 | + SV travel mm : 6.5 |
| Tolerance | Tolerance mm : 0.4 |
| cm3/1000 strokes : 15.0 | + Check |
| Shutoff solenoid | tolerance mm : 0.7 |
| Volt : 12 | + Shutoff solenoid |
| | + Volt : 12 |
| SET GRADUATED STARTING DELIVERY | 1 |
| CONTROL LEVER, IDLE STOP | + Rated speed rpm : 750 |
| · | + Aneroid pressure |
| Rated speed rpm : 200 | + hPa : 1000 |
| Del. quantity | + |
| cm3/1000 strokes : 53.0 | + SV travel mm : 1.5 |
| Tolerance | + Tolerance mm : 0.4 |
| cm3/1000 strokes : 3.0 | + Check |
| Shutoff solenoid | tolerance mm : 0.7 |
| Volt : 12 | + Shutoff solenoid |
| | + Volt : 12 |
| | CURRY N. DUMB. DESCRIPTION OF CHARACTER TOTAL |
| LOAD-DEPENDENT START OF DELIVERY | SUPPLY PUMP PRESSURE CHARACTERISTIC |
| SETTING | Pated annual num . 2000 |
| OF: THERY ATTECCHAC | + Rated speed rpm : 2000 |
| DELIVERY DIFFERENCE | + Aneroid pressure + hPa : 1000 |
| Dated around nam . 1250 | + Supply pomp |
| Rated speed rpm : 1250 Del. quantity | pressure bar : 7.5 |
| cm3/1000 strokes : -10.0 | Tolerance hPa : 0.3 |
| Tolerance | + Shutoff solenoid |
| cm3/1000 strokes : 1.0 | + Volt : 12 |
| Shutoff solenoid | _ |
| Volt : 12 | Rated speed rpm : 750 |
| | + Aneroid pressure |
| PRESSURE DIFFERENCE | + hPa : 1000 |
| | + Supply pomp |
| Rated speed rpm : 1250 | + pressure bar : 4.3 |
| Del. quantity | + Tolerance hPa : 0.3 |
| cm3/1000 strokes : -0.2 | + Shutoff solenoid |
| Tolerance | + Volt : 12 |
| cm3/1000 strokes : 0.1 | + |
| Shutoff solenoid | + OVERFLOW QUANTITY |
| Volt : 12 | † 2 |
| | + Rated speed rpm : 2150 |
| TIMING-DEVICE TRAVEL DIFFERENCE | + |
| | |

| Aneroid pressure hPa | : | 1000 | | + | Shutoff solenoid Volt | : | 12 |
|-------------------------------------|--|----------|----------|----------|--|---|------|
| Overflow quantity ccm/10s | : | 97.2 | | Ŧ | Rated speed rpm | : | 750 |
| Tolerance ccm/10s | : | 41.6 | | Ī | Aneroid pressure hPa | : | 350 |
| Check tolerance ccm/10s | • | 41.6 | | Ī | LDA/ HBA stroke mm | : | 5,9 |
| Shutoff solenoid | • | | | + | Del. quantity | | |
| Volt | : | 12 | | ‡ | cm3/1000 strokes Tolerance | : | 46.0 |
| Rated speed rpm Aneroid pressure | : | 500 | | <u>†</u> | cm3/1000 strokes Check tolerance | : | 0.5 |
| hPa | : | 1000 | | + | cm3/1000s. | : | 3.0 |
| Overflow quantity ccm/10s | : | 63.8 | | ‡ | Shutoff solenoid Volt | : | 12 |
| Tolerance ccm/10s | : | 22.2 | | ‡ | Rated speed rpm | : | 2150 |
| | | | | + | Aneroid pressure | | |
| Check tolerance ccm/10s | : | 22.2 | | İ | hPa Del. quantity | : | 1000 |
| Shutoff solenoid | • | | | + | cm3/1000 strokes | : | 50.5 |
| Volt | : | 12 | | + | Tolerance | | 1 0 |
| DELIVERY AND BREAK | <awa< td=""><td>Y CHARAC</td><td>TERISTIC</td><td>Ī</td><td>cm3/1000 strokes Check tolerance</td><td>:</td><td>1.0</td></awa<> | Y CHARAC | TERISTIC | Ī | cm3/1000 strokes Check tolerance | : | 1.0 |
| | | | | + | cm3/1000s. | : | 2.2 |
| Rated speed rpm Aneroid pressure | : | 2575 | | İ | Shutoff solenoid Volt | | 12 |
| hPa | : | 1000 | | Ŧ | VOCC | • | , _ |
| Del. quantity | | 1/ 0 | | + | Rated speed rpm | : | 2000 |
| cm3/1000 strokes Tolerance | : | 14.0 | | 1 | Aneroid pressure hPa | : | 1000 |
| cm3/1000 strokes | : | 2.0 | | + | Del. quantity | | |
| Check tolerance cm3/1000s. | | 4.0 | | 1 | cm3/1000 strokes Tolerance | : | 51.5 |
| Shutoff solenoid | • | | | + | the state of the s | : | 1.0 |
| Volt | : | 12 | | † | Check tolerance cm3/1000s. | | 2.2 |
| Rated speed rpm | : | 2375 | | Ţ | Shutoff solenoid | • | ۷.۲ |
| Aneroid pressure | | | | + | Volt | : | 12 |
| hPa Del. quantity | : | 1000 | | 1 | Rated speed rpm | : | 500 |
| cm3/1000 strokes | : | 39.0 | | + | Aneroid pressure | • | |
| Tolerance cm3/1000 strokes | | 5.0 | | † | hPa Del. quantity | : | 1000 |
| Check tolerance | • | | | Ŧ | cm3/1000 strokes | : | 48.3 |
| cm3/1000S. Shutoff solenoid | : | 6.0 | | ‡ | Tolerance cm3/1000 strokes | : | 1.5 |
| Volt | : | 12 | | <u>†</u> | Check tolerance cm3/1000s. | | 3.0 |
| Rated speed rpm | : | 2750 | | + | Shutoff solenoid | • | |
| Aneroid pressure hPa | : | 1000 | | Ŧ | Volt | • | 12 |
| Del. quantity cm3/1000 strokes | : | 3.0 | | ‡ | Rated speed rpm Aneroid pressure | : | 1250 |
| Tolerance | | | | + | hPa | : | 1000 |
| cm3/1000 strokes Check tolerance | • | 3.0 | | Ţ | Del. quantity cm3/1000 strokes | : | 54.0 |
| cm3/1000s. | : | 3.0 | | + | | | |
| | | | | | | | |

| Tolerance | 0.5 | + Check tolerance | | 5 0 |
|---|-------------------|---|------|--------------------|
| cm3/1000 strokes | : 0.5 | + cm3/1000s. | : | 5.0 |
| Check tolerance | | + Shutoff solenoid | | |
| cm3/1000s. | : 2.2 | → Volt | : | 12 |
| Shutoff solenoid | | 1 | | |
| Volt | : 12 | TIMING-DEVICE TRA | WEI | NTEEEDENCE |
| VOCC | • 12 | I I I I I I I I I I I I I I I I I I I | 1066 | DIFFERENCE |
| | | | | 1250 |
| MECHANICAL SHUTOF | F | + Del. quantity | • | 1230 |
| HECHANICAE ONOTO | ' | + cm3/1000 strokes | | -1.0 |
| Dated aread are | . 2000 | | • | -7.0 |
| Rated speed rpm | : 2000 | + Tolerance | | 0.4 |
| Aneroid pressure | | + cm3/1000 strokes | : | 0.1 |
| hPa | : 1000 | + Check tolerance | | |
| Del. quantity | | + cm3/1000s. | : | 0.1 |
| cm3/1000 strokes | : 1.5 | + Shutoff solenoid | | |
| Tolerance | , , , , | + Volt | | 12 |
| cm3/1000 strokes | : 1.5 | 1 | • | 16 |
| | . 1.5 | T AFI TUENV ATEREDA | lo- | |
| Check tolerance | 4 - | + DELIVERY DIFFEREN | 1CE | |
| cm3/1000s. | : 1.5 | † | | |
| Shutoff solenoid | | + Rated speed rpm | : | 1250 |
| Volt | : 12 | <pre>Del. quantity</pre> | | |
| | | + cm3/1000 strokes | : | 5.0 |
| | | Tolerance | • | - · · · |
| ELECTR. SHUTOFF | | cm3/1000 strokes | | 3.0 |
| | . C 0700 | | ٠ | 3.0 |
| CONTROL LEVER, ID | LE 210b | + Check tolerance | | |
| | | + cm3/1000s. | : | 3.0 |
| Rated speed rpm | : 440 | + Shutoff solenoid | | |
| Del. quantity | | ∔ Volt | : | 12 |
| cm3/1000 strokes | : 1.5 | + | | |
| Tolerance | , ,,,, | PRESSURE DIFFEREN | ICE | |
| cm3/1000 strokes | : 1.5 | 1 | | |
| | . 1.3 | T BEALD OF | | 1250 |
| Check tolerance | | + Rated speed rpm | : | 1250 |
| cm3/1000s. | : 1.5 | + Supply pomp | | |
| | | + pressure bar | : | -1.1 |
| FULL-LOAD STOP CO | NTROL LEVER | + Tolerance hPa | : | 0.2 |
| | | → Shutoff solenoid | | |
| Rated speed rpm | : 440 | + Volt | • | 12 |
| Del. quantity | . , , , , | 1 | • | 1 144 |
| | , 4 F | TIMING NEUTCE TO | 17-1 | רב בברת באומר ה |
| cm3/1000 strokes | : 1.5 | + TIMING-DEVICE TRA | VEL | NTLLEKENCE |
| Tolerance | | † | | |
| cm3/1000 strokes | : 1.5 | + Rated speed rpm | : | 1250 |
| Check tolerance | | + Tolerance mm | : | 0.2 |
| cm3/1000s. | : 1.5 | + Check | | |
| | | + tolerance mm | : | 0.7 |
| | | + Shutoff solenoid | • | J.1 |
| | | | | 10 |
| | | † Volt | : | 12 |
| | | † | | |
| | | EVIIALIST CAS SECTS | CLU | ATTON |
| CHECKTAIC LOAD DEC | NOTAL | EXHAUST-GAS RECIR | UUL/ | 4 I TON |
| CHECKING LOAD-DEPE | | Torrid | | 4050 |
| START OF DELIVERY | | + Rated speed rpm | : | 1250 |
| | | + Aneroid pressure | | |
| | Œ | + hPa | : | 1000 |
| DELIVERY DIFFERENCE | | + Del. quantity | | |
| DELIVERY DIFFERENCE | | | | |
| | | | • | 17 R |
| Rated speed rpm | : 1250 | + cm3/1000 strokes | : | 17.8 |
| Rated speed rpm Del. quantity | : 1250 | cm3/1000 strokes Tolerance | | |
| Rated speed rpm Del. quantity cm3/1000 strokes | : 1250 | cm3/1000 strokes Tolerance cm3/1000 strokes | | 17.8 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : 1250 : -13.0 | cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | | 1.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes | : 1250 : -13.0 | cm3/1000 strokes Tolerance cm3/1000 strokes | | |

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 380

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 5,9

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 6,0
Tolerance mm : +-0,2
Dimension MS mm : 1,3
Tolerance mm : +-0,2

MICROSWITCH

SET

mm : 0,8...3,0

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 25,8..29,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18,10.95 Edition : ISO 4113 Test oil

: 0 460 494 423 Part no. Pump designation: VE4/9F2250R513-4

Customer-spec. information

Customer : PSA

: XUD 9 TF/L EGR Motor

Power KW 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 3 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter : 450 x length mm :

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1250 Rated speed rpm

Aneroid pressure

hPa 1000

Setting mm 3.6 Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure

hPa 1000

Setting hPa 5.6 Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm 1250 :

Aneroid pressure hPa

1000

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s.3.0

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. guantity

cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : 0.5 Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

490 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes : 0.5

| Charles and annial | 1 |
|--|--|
| Shutoff solenoid Volt : 12 | Rated speed rpm : 1250 |
| | + Del. quantity |
| FULL-LOAD SPEED REGULATION | + cm3/1000 strokes : −1.0 |
| Dadad social social SEZE | † Tolerance |
| Rated speed rpm : 2575 Pressure hPa : 1000 | + cm3/1000 strokes : 0.1 + Shutoff solenoid |
| Del. quantity | + Volt : 12 |
| cm3/1000 strokes : 14.0 | + |
| Tolerance | |
| cm3/1000 strokes : 2.0 Shutoff solenoid | † INJECTION-PUMP TEST SPECIFICATIONS |
| Volt : 12 | TIMING DEVICE CHARACTERISTIC |
| | + |
| STARTING FUEL DELIVERY | + Rated speed rpm : 2000 |
| Rated speed rpm : 150 | + Aneroid pressure + hPa : 1000 |
| Rated speed rpm : 150 Del. quantity | hPa : 1000 |
| cm3/1000 strokes : 52.0 | + SV travel mm : 6.5 |
| Tolerance | + Tolerance mm : 0.4 |
| cm3/1000 strokes : 15.0 | + Check |
| Shutoff solenoid Volt : 12 | + tolerance mm : 0.7 + Shutoff solenoid |
| vott . 12 | + Volt : 12 |
| SET GRADUATED STARTING DELIVERY | + |
| CONTROL LEVER, IDLE STOP | + Rated speed rpm : 750 |
| Rated speed rpm : 200 | + Aneroid pressure + hPa : 1000 |
| Rated speed rpm : 200 Del. quantity | + 11ra . 1000 |
| cm3/1000 strokes : 53.0 | SV travel mm : 1.5 |
| Tolerance | Tolerance mm : 0.4 |
| cm3/1000 strokes : 3.0 | + Check |
| Shutoff solenoid Volt : 12 | + tolerance mm : 0.7 + Shutoff solenoid |
| | + Volt : 12 |
| | + |
| LOAD-DEPENDENT START OF DELIVERY | Rated speed rpm : 1250 |
| SETTING | + SUPPLY PUMP PRESSURE CHARACTERISTIC |
| DELIVERY DIFFERENCE | + |
| | Rated speed rpm : 2000 |
| Rated speed rpm : 1250 | Aneroid pressure |
| Del. quantity cm3/1000 strokes : -10.0 | + hPa : 1000 + Supply pomp |
| Tolerance | pressure bar : 7.5 |
| cm3/1000 strokes : 1.0 | + Tolerance hPa : 0.3 |
| Shutoff solenoid | + Shutoff solenoid |
| Volt : 12 | † Volt : 12 |
| PRESSURE DIFFERENCE | Rated speed rpm : 750 |
| | + Aneroid pressure |
| Rated speed rpm : 1250 | † hPa : 1000 |
| Del. quantity cm3/1000 strokes : -0.2 | + Supply pomp + pressure bar : 4.3 |
| cm3/1000 strokes : -0.2 Tolerance | + pressure bar : 4.3 + Tolerance hPa : 0.3 |
| cm3/1000 strokes : 0.1 | Shutoff solenoid |
| Shutoff solenoid | + Volt : 12 |
| Volt : 12 | OVEREI OLI CUANITITY |
| TIMING-DEVICE TRAVEL DIFFERENCE | + OVERFLOW QUANTITY |
| CACIFIED APATAM CINIAMP NATIONINAP | ı |

| Rated speed rpm | : | 2150 | + | Check tolerance | | 7.0 |
|-------------------------------------|--|-------------------|----------|--|---|--------|
| Aneroid pressure hPa | • | 1000 | 1 | cm3/1000s. Shutoff solenoid | : | 3.0 |
| Overflow quantity | • | | + | Volt | : | 12 |
| ccm/10s | : | 97.2 | + | Date de la companya d | | 750 |
| Tolerance ccm/10s | | 41.6 | 1 | Rated speed rpm Aneroid pressure | : | 750 |
| 00.117 100 | • | 71.0 | 1 | hPa | : | 350 |
| Check tolerance | | 10. | + | | | |
| ccm/10s Shutoff solenoid | : | 41.6 | İ | LDA/ HBA stroke mm | | 5,9 |
| Volt | : | 12 | Ţ | Del. quantity | • | 3,7 |
| | | | + | cm3/1000 strokes | : | 46.0 |
| Rated speed rpm | : | 500 | † | Tolerance | | 0.5 |
| Aneroid pressure hPa | • | 1000 | Ī | cm3/1000 strokes Check tolerance | : | 0.5 |
| Overflow quantity | • | | + | cm3/1000s. | : | 3.0 |
| ccm/10s | : | 63.8 | + | Shutoff solenoid | | 40 |
| Tolerance ccm/10s | | 22.2 | İ | Volt | : | 12 |
| CCIII/ 103 | • | <i>cc.c</i> | Ţ | Rated speed rpm | : | 2150 |
| Check tolerance | | | + | Aneroid pressure | | |
| ccm/10s Shutoff solenoid | : | 22.2 | † | hPa Del. quantity | : | 1000 |
| Volt | : | 12 | I | cm3/1000 strokes | : | 50.5 |
| | | _ | + | Tolerance | | |
| DELIVERY AND BREAK | <aw< td=""><td>AY CHARACTERISTIC</td><td>†</td><td>cm3/1000 strokes</td><td>:</td><td>1.0</td></aw<> | AY CHARACTERISTIC | † | cm3/1000 strokes | : | 1.0 |
| Rated speed rpm | : | 2575 | 1 | Check tolerance cm3/1000s. | • | 2.2 |
| Aneroid pressure | • | | <u> </u> | Shutoff solenoid | • | |
| hPa | : | 1000 | + | Volt | : | 12 |
| Del. quantity cm3/1000 strokes | | 14.0 | 1 | Rated speed rpm | : | 2000 |
| Tolerance | • | 17.0 | Ţ | Aneroid pressure | • | 2000 |
| cm3/1000 strokes | : | 2.0 | + | hPa | : | 1000 |
| Check tolerance cm3/1000s. | | 4.0 | † | Del. quantity cm3/1000 strokes | : | 51.5 |
| Shutoff solenoid | • | 4.0 | I | Tolerance | • | ر ۱۰ ر |
| Volt | : | 12 | + | cm3/1000 strokes | : | 1.0 |
| Data dana adam | | 2775 | + | Check tolerance | | 2.2 |
| Rated speed rpm Aneroid pressure | : | 2375 | 1 | cm3/1000S. Shutoff solenoid | : | 2.2 |
| hPa | : | 1000 | 1 | Volt | : | 12 |
| Del. quantity | | 70.0 | + | Data da ana ada a | | 500 |
| cm3/1000 strokes Tolerance | : | 39.0 | 1 | Rated speed rpm Aneroid pressure | : | 500 |
| cm3/1000 strokes | : | 5.0 | 1 | hPa | : | 1000 |
| Check tolerance | | | + | Del. quantity | | / O = |
| cm3/1000S. Shutoff solenoid | : | 6.0 | 1 | cm3/1000 strokes Tolerance | : | 48.3 |
| Volt | : | 12 | Ţ | cm3/1000 strokes | : | 1.5 |
| | | | + | Check tolerance | | |
| Rated speed rpm Aneroid pressure | : | 2750 | † | cm3/1000S. Shutoff solenoid | : | 3.0 |
| hPa | : | 1000 | Ţ | Volt | : | 12 |
| Del. quantity | | | + | | | |
| cm3/1000 strokes Tolerance | : | 3.0 | † | Rated speed rpm Aneroid pressure | : | 1250 |
| cm3/1000 strokes | : | 3.0 | I | hPa | : | 1000 |
| | - | - - | + | | | |
| | | | | | | |

| | | 1 | . | | |
|----------------------------------|-------------|---------------|-------------------------------------|------|--|
| Del. quantity cm3/1000 strokes | : 54.0 | † | Tolerance | _ | 2.0 |
| Tolerance | , 54.0 | Ī | cm3/1000 strokes Check tolerance | | 2.0 |
| cm3/1000 strokes | : 0.5 | 1 | cm3/1000s. | : | 5.0 |
| Check tolerance | | + | Shutoff solenoid | | |
| cm3/1000s. | : 2.2 | + | Volt | : | 12 |
| Shutoff solenoid | | + | | | |
| Volt | : 12 | + | TIMING-DEVICE TRA | IVEL | DIFFERENCE |
| | | . † | Dated anoted ann | _ | 1250 |
| MECHANICAL SHUTOF | F | <u> </u> | Rated speed rpm Del. quantity | • | 1230 |
| THEOTIMITE OF OTOTO | • | 1 | cm3/1000 strokes | : | -1.0 |
| Rated speed rpm | : 2000 | + | Tolerance | • | |
| Aneroid pressure | | + | cm3/1000 strokes | : | 0.1 |
| hPa | : 1000 | + | Check tolerance | | |
| Del. quantity | | + | cm3/1000s. | : | 0.1 |
| cm3/1000 strokes | : 1.5 | † | Shutoff solenoid | | 42 |
| Tolerance cm3/1000 strokes | : 1.5 | † | Volt | : | 12 |
| Check tolerance | | 1 | DELIVERY DIFFEREN | ICE. | |
| cm3/1000s. | | I | PETAEK! DILLEKEN | | |
| Shutoff solenoid | | I | Rated speed rpm | : | 1250 |
| Volt | : 12 | 1 | Del. quantity | • | |
| | | + | cm3/1000 strokes | : | 5.0 |
| | | + | Tolerance | | |
| ELECTR. SHUTOFF | | + | cm3/1000 strokes | : | 3.0 |
| CONTROL LEVER, ID | LE STOP | + | Check tolerance | | 7.0 |
| Data dama adama | . //0 | † | cm3/1000s. | : | 3.0 |
| Rated speed rpm Del. quantity | : 440 | † | Shutoff solenoid Volt | | 12 |
| cm3/1000 strokes | : 1.5 | Ī | VOCE | • | 12 |
| Tolerance | . (.) | I | PRESSURE DIFFEREN | ۲F | |
| cm3/1000 strokes | : 1.5 | <u> </u> | THEODONE DITTENEN | Ü. | |
| Check tolerance | | + | Rated speed rpm | : | 1250 |
| cm3/1000s. | : 1.5 | + | Supply pomp | | |
| | | + | pressure bar | : | -1.1 |
| FULL-LOAD STOP CO | NTROL LEVER | † | Tolerance hPa | : | 0.2 |
| D-4-4 | . //0 | † | Shutoff solenoid | _ | 10 |
| Rated speed rpm | | Ī | Volt | : | 12 |
| Del. quantity cm3/1000 strokes | | I | TIMING-DEVICE TRA | ۷FI | DIFFERENCE |
| Tolerance | . ,,,, | 1 | THE PENTOE INT | , | DATE ENLINCE |
| cm3/1000 strokes | : 1.5 | 1 | Rated speed rpm | : | 1250 |
| Check tolerance | | + | Tolerance mm | : | 0.2 |
| cm3/1000s. | : 1.5 | + | Check | | |
| | | + | tolerance mm | : | 0.7 |
| | | † | Shutoff solenoid | | 40 |
| | | † | Volt | : | 12 |
| | | I | | | ······································ |
| | | | EXHAUST-GAS RECIR | CUL/ | ATION |
| CHECKING LOAD-DEPE | ENDENT | + | | , | |
| START OF DELIVERY | | + | Rated speed rpm | | 1250 |
| | | + | Aneroid pressure | | 4000 |
| DELIVERY DIFFERENCE | CE | + | hPa | : | 1000 |
| Data dans al | . 4250 | † | Del. quantity | | 17 0 |
| Rated speed rpm | : 1250 | † | cm3/1000 strokes Tolerance | : | 17.8 |
| Del. quantity cm3/1000 strokes | · -13 N | Ī | cm3/1000 strokes | | 1 በ |
| AUDI 1000 3410V62 | . 15.0 | I | 5 2 1000 3 11 0VG2 | • | 1.0 |
| | | Ī | | | |

Check tolerance

cm3/1000s.

4.0

Shutoff solenoid

Volt

12

START TRANSITION

Rated speed rpm :

380

Del. quantity cm3/1000 strokes :

35.0

Tolerance

cm3/1000 strokes :

10.0

Shutoff solenoid

Volt

12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm

5,9

Dimension K mm : 3,3

Tolerance mm

: +-0,1

Dimension KF mm : 6,0

Tolerance mm

: +-0,2

Dimension MS mm : 1,3

Tolerance mm

: +-0,2

MICROSWITCH

SET

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 25,8..29,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.10.95 Test oil : ISO 4113

Part no. : 0 460 494 430 Pump designation : VE4/9F225OR513-5

Customer-spec. information

Customer : PSA

Motor : XUD 9 TF/X3 Power KW : 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250 Aneroid pressure

hPa : 1000

Setting mm : 3.6
Tolerance mm : 0.2
Shutoff solenoid

Volt :

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa : 1000

Setting hPa : 5.6 Tolerance hPa : 0.3 Shutoff solenoid

Volt :

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

12

Rated speed rpm : 1250 Aneroid pressure

hPa : 1000

Del. quantity cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0 Check tolerance

Check tolerance cm3/1000s. : 3.0 Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt : 12

Check tolerance cm3/1000s. : 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 490

Del. quantity

cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes : 0.5

| Shutoff solenoid Volt : 12 | + Rated speed rpm : 1250 |
|---|---|
| FULL-LOAD SPEED REGULATION | Del. quantity cm3/1000 strokes : -1.0 |
| Rated speed rpm : 2575 Pressure hPa : 1000 | Tolerance cm3/1000 strokes : 0.1 Shutoff solenoid |
| Del. quantity cm3/1000 strokes : 14.0 | Volt : 12 |
| Tolerance cm3/1000 strokes : 2.0 | INJECTION-PUMP TEST SPECIFICATIONS |
| Shutoff solenoid | + |
| Volt : 12 | + TIMING DEVICE CHARACTERISTIC |
| STARTING FUEL DELIVERY | Rated speed rpm : 2000 Aneroid pressure |
| Rated speed rpm : 150 Del. quantity | hPa : 1000 |
| cm3/1000 strokes : 52.0 Tolerance | SV travel mm : 6.5 Tolerance mm : 0.4 |
| cm3/1000 strokes : 15.0 Shutoff solenoid | + Check + tolerance mm : 0.7 |
| Volt : 12 | + Shutoff solenoid + Volt : 12 |
| SET GRADUATED STARTING DELIVERY | + |
| CONTROL LEVER, IDLE STOP | + Rated speed rpm : 750 + Aneroid pressure |
| Rated speed rpm : 200 Del. quantity | hPa : 1000 |
| cm3/1000 strokes : 53.0 Tolerance | SV travel mm : 1.5 Tolerance mm : 0.4 |
| cm3/1000 strokes : 3.0 Shutoff solenoid | + Check + tolerance mm : 0.7 |
| Volt : 12 | + Shutoff solenoid |
| | + Volt : 12 |
| LOAD-DEPENDENT START OF DELIVERY SETTING | + SUPPLY PUMP PRESSURE CHARACTERISTIC |
| DELIVERY DIFFERENCE | Rated speed rpm : 2000 Aneroid pressure |
| Rated speed rpm : 1250 | + hPa : 1000 + Supply pomp |
| Del. quantity cm3/1000 strokes : -10.0 | + pressure bar : 7.5 + Tolerance hPa : 0.3 |
| Tolerance | + Shutoff solenoid + Volt : 12 |
| Shutoff solenoid | + |
| Volt : 12 | + Rated speed rpm : 750 + Aneroid pressure |
| PRESSURE DIFFERENCE | + hPa : 1000 + Supply pomp |
| Rated speed rpm : 1250 Del. quantity | + pressure bar : 4.3 + Tolerance hPa : 0.3 |
| cm3/1000 strokes : -0.2 | + Shutoff solenoid |
| Tolerance cm3/1000 strokes : 0.1 | + Volt : 12 |
| Shutoff solenoid Volt : 12 | OVERFLOW QUANTITY |
| TIMING-DEVICE TRAVEL DIFFERENCE | Rated speed rpm : 2150 |
| ITHING REALCE INVALET RELEGIACE | 1 |

| Aneroid pressure hPa | : | 1000 | | + | Shutoff solenoid Volt | : | 12 |
|---|-----|------------|---------|---|-------------------------------------|---|------|
| Overflow quantity ccm/10s Tolerance | : | 97.2 | | + | Rated speed rpm | | 750 |
| ccm/10s | : | 41.6 | | Ī | Aneroid pressure hPa | : | 350 |
| Check tolerance ccm/10s | : | 41.6 | | + | LDA/ HBA stroke mm | : | 5,9 |
| Shutoff solenoid | · | | | + | Del. quantity | - | |
| Volt | : | 12 | | ‡ | cm3/1000 strokes Tolerance | | 46.0 |
| Rated speed rpm | : | 500 | | + | cm3/1000 strokes Check tolerance | : | 0.5 |
| Aneroid pressure | : | 1000 | | Ŧ | cm3/1000s. | : | 3.0 |
| Overflow quantity ccm/10s | • | 63.8 | | 1 | Shutoff solenoid Volt | • | 12 |
| Tolerance | Ť | 55.5 | | + | | • | ,- |
| ccm/10s | : | 22.2 | | + | Rated speed rpm Aneroid pressure | : | 2150 |
| Check tolerance | | 22.2 | | + | hPa | : | 1000 |
| ccm/10s Shutoff solenoid | · | 22.2 | | Ţ | Del. quantity cm3/1000 strokes | : | 50.1 |
| Volt | : | 12 | | + | Tolerance | | 1.0 |
| DELIVERY AND BREA | KAW | AY CHARACT | ERISTIC | ‡ | cm3/1000 strokes Check tolerance | : | 1.0 |
| 5 -4 · 1 · · · · · · · · · · · · · · · · · | | 2575 | | + | cm3/1000s. | : | 2.2 |
| Rated speed rpm Aneroid pressure | : | 2575 | | 1 | Shutoff solenoid Volt | : | 12 |
| hPa | : | 1000 | | + | | • | |
| Del. quantity cm3/1000 strokes | | 14.0 | | † | Rated speed rpm Aneroid pressure | : | 2000 |
| Tolerance | • | 14.0 | | Į | hPa | : | 1000 |
| cm3/1000 strokes Check tolerance | : | 2.0 | | + | Del. quantity cm3/1000 strokes | : | 52.0 |
| cm3/1000S. | : | 4.0 | | Ŧ | Tolerance | • | |
| Shutoff solenoid | | 13 | | + | cm3/1000 strokes | : | 1.0 |
| Volt | • | 12 | | Ţ | Check tolerance cm3/1000s. | : | 2.2 |
| Rated speed rpm | : | 2375 | | + | Shutoff solenoid Volt | | 12 |
| Aneroid pressure hPa | : | 1000 | | Ţ | VOLL | • | 12 |
| Del. quantity | | 39.0 | | + | Rated speed rpm | : | 500 |
| cm3/1000 strokes Tolerance | • | 39.0 | | Ţ | Aneroid pressure hPa | : | 1000 |
| cm3/1000 strokes Check tolerance | : | 5.0 | | 1 | Del. quantity cm3/1000 strokes | : | 48.3 |
| cm3/1000s. | : | 6.0 | | + | Tolerance | • | |
| Shutoff solenoid Volt | : | 12 | | Ţ | cm3/1000 strokes Check tolerance | : | 1.5 |
| Dated aread nom | | 2750 | | + | cm3/1000S. Shutoff solenoid | : | 3.0 |
| Rated speed rpm Aneroid pressure | : | 2130 | | I | Volt | : | 12 |
| hPa | : | 1000 | | + | D. I I | | 4250 |
| Del. quantity cm3/1000 strokes | : | 3.0 | | ‡ | Rated speed rpm Aneroid pressure | : | 1250 |
| Tolerance | | | | + | hPa | : | 1000 |
| cm3/1000 strokes Check tolerance | : | 3.0 | | ‡ | Del. quantity cm3/1000 strokes | : | 54.0 |
| cm3/1000s. | : | 3.0 | | + | | | |

| Tolerance | | + Check to | | |
|-------------------|--------------|---------------|--------------|--------------|
| cm3/1000 strokes | : 0.5 | + cm3/1000s | | 5.0 |
| Check tolerance | | + Shutoff s | solenoid | |
| cm3/1000s. | : 2.2 | + Volt | : | 12 |
| Shutoff solenoid | | + | | |
| Volt | : 12 | + TIMING-DE | EVICE TRAVEL | DIFFERENCE |
| | | + | | |
| | | | | 1250 |
| MECHANICAL SHUTOF | F F | + Del. quar | ntity | |
| | | + cm3/1000 | strokes : | -1.0 |
| Rated speed rpm | : 2000 | + Tolerance | е | |
| Aneroid pressure | | → cm3/1000 | strokes : | 0.1 |
| hPa | : 1000 | - Check to | | |
| Del. quantity | | + cm3/1000s | | 0.1 |
| cm3/1000 strokes | : 1.5 | + Shutoff s | | U. 1 |
| Tolerance | • 1.5 | - Volt | socenoru : | 12 |
| cm3/1000 strokes | : 1.5 | I | • | 12 |
| | ٠.، | T NEI TUENV | NIEEEDENCE | |
| Check tolerance | . 1 = | T DELIVERY | DIFFERENCE | |
| cm3/1000s. | : 1.5 | T | | 1250 |
| Shutoff solenoid | . 40 | + Rated spe | | 1250 |
| Volt | : 12 | + Del. quar | | 5.0 |
| | | , | strokes : | 5 .0 |
| | | + Tolerance | | |
| ELECTR. SHUTOFF | | | strokes : | 3.0 |
| CONTROL LEVER, ID | LE STOP | + Check tol | | |
| | | + cm3/1000s | | 3.0 |
| Rated speed rpm | : 440 | + Shutoff s | solenoid | |
| Del. quantity | | → Volt | : | 12 |
| cm3/1000 strokes | : 1.5 | + | | |
| Tolerance | • • | ∔ PRESSURF | DIFFERENCE | |
| cm3/1000 strokes | : 1.5 | 1 | | |
| Check tolerance | | + Rated spe | eed rom : | 1250 |
| cm3/1000s. | : 1.5 | + Supply po | | 1230 |
| Ciii / 10000 . | • 1• • | + pressure | | -1.1 |
| FULL-LOAD STOP CO | NTPOL LEVED | + Tolerance | | 0.2 |
| TOLL LUMD STOP CO | TITIOL LEVER | + Shutoff s | | 0.2 |
| Dahad anned | . //0 | , | orenoid . | 10 |
| Rated speed rpm | : 440 | † Volt | : | 12 |
| Del. quantity | . 4 - | † | | A.T.E.E.C.E. |
| cm3/1000 strokes | : 1.5 | † ITMING-DE | EVICE TRAVEL | DIFFERENCE |
| Tolerance | | + | | |
| cm3/1000 strokes | : 1.5 | + Rated spe | | 1250 |
| Check tolerance | | + Tolerance | e mm : | 0.2 |
| cm3/1000s. | : 1.5 | ┼ Check | | |
| | | + tolerance | emm : | 0.7 |
| | | → Shutoff s | olenoid | |
| | | + Volt | : | 12 |
| | | + | • | _ |
| | | ļ | | |
| | | → EXHAUST-G | AS RECIRCUL | ATION |
| CHECKING LOAD-DEP | ENDENT | + | | |
| START OF DELIVERY | | + Rated spe | ed rom : | 1250 |
| | | + Aneroid p | | · • • |
| DELIVERY DIFFEREN | CE | + hPa | | 1000 |
| OFFTAFU! DILLEMEN | <u> </u> | Del. quan | .+i+v | 1000 |
| Datad apard war | . 1250 | | | 17.8 |
| Rated speed rpm | : 1250 | | strokes : | 17.0 |
| Del. quantity | 47.0 | † Tolerance | | 4.0 |
| cm3/1000 strokes | : -13.0 | | strokes : | 1.0 |
| Tolerance | | + Check tol | | |
| cm3/1000 strokes | : 2.0 | + cm3/1000s | i. : | 4.0 |
| | | + | | |
| | | • | | |

Shutoff solenoid

Volt : 12

START TRANSITION

Rated speed rpm : 380

Del. quantity cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : 10.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 5,9

Dimension K mm : 3,3
Tolerance mm : +0,1
Dimension KF mm : 6,0
Tolerance mm : +0,2

Dimension MS mm : 1,3 Tolerance mm : +-0,2

MICROSWITCH

SET

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 28,8..32,8

Control lever

position YB mm : 69,2..80,8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.06.96 Edition Test oil : ISO 4113

: 0 460 416 056 Part no. Pump designation: VE6/11F1500R55-9

Customer-spec. information Customer : MAN

: D 0226 MF Motor 100.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar :

Test nozzle holde

assembly : 1 688 901 000

Opening pressure

Tolerance bar

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

B19

(as of UT) mm : 0,6 : +-0,02 Tolerance mm

Check

tolerance mm : +-0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

6.2 Setting mm : Tolerance mm 0.2 : Shutoff solenoid Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm : 1000

Setting hPa 6.0 Tolerance hPa 0.3 Shutoff solenoid Volt

24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

24

Rated speed rpm : 1000 Del. quantity

cm3/1000 strokes : 64.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 3.5 Shutoff solenoid

Volt

IDLE SETTING

350 Rated speed rpm

Del. quantity

9.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

24 Volt

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.5

FULL-LOAD SPEED REGULATION

Rated speed rpm

Del. quantity

1550

cm3/1000 strokes :

55.0

| Tolerance | . 7.0 | + | Overflow quantity | | 07.0 | |
|---|--------------------|-----------|--------------------------------|-------|--------------|---------|
| cm3/1000 strokes Shutoff solenoid | : 3.0 | † | ccm/10s | : | 97.2 | |
| Volt | : 24 | Ī | Tolerance ccm/10s | : | 41.6 | |
| ۷۵۲۲ | . 24 | I | CCIII/ TUS | • | 41.0 | |
| STARTING FUEL DEL | IVERY | 1 | Check tolerance | | | |
| | | 1 | ccm/10s | : | 41.6 | |
| Rated speed rpm | : 100 | + | Shutoff solenoid | | | |
| Del. quantity | | + | Volt | : | 24 | |
| cm3/1000 strokes | : 65.0 | + | | | | |
| Tolerance | | + | Rated speed rpm | : | 600 | |
| cm3/1000 strokes | : 20.0 | t | Overflow quantity | / | (2) F | |
| Shutoff solenoid | : 24 | † | ccm/10s | : | 62.5 | |
| Volt | : 24 | Ť | Tolerance ccm/10s | : | 22.2 | |
| | | I | CCIII/ TUS | • | ۲۲.۲ | |
| | | 1 | Check tolerance | | | |
| | | 1 | ccm/10s | : | 22.2 | |
| | | ↓ | Shutoff solenoid | | | |
| INJECTION-PUMP TE | ST SPECIFICATIONS | + | Volt | : | 24 | |
| | | + | | | | |
| TIMING DEVICE CHA | RACTERISTIC | + | DELIVERY AND BREA | KAWA' | Y CHARACTI | ERISTIC |
| Destant amount was | . 4/00 | + | Data da ana adama | | 4550 | |
| Rated speed rpm | : 1400 | † | Rated speed rpm | : | 1550 | |
| SV travel mm | : 9.0 | Ī | Del. quantity cm3/1000 strokes | | 55.0 | |
| Tolerance mm | : 0.4 | I | Tolerance | • | 22.0 | |
| Check | . 0.4 | 1 | cm3/1000 strokes | : | 3.0 | |
| tolerance mm | : 0.7 | + | Check tolerance | · | | |
| Shutoff solenoid | | + | cm3/1000s. | : | 4.5 | |
| Volt | : 24 | + | Shutoff solenoid | | | |
| | | + | Volt | : | 24 | |
| Rated speed rpm | : 600 | † | Dadad anadan | | 4/70 | |
| SV travel mm | : 3.7 | † | Rated speed rpm | : | 1630 | |
| Tolerance mm | : 0.4 | I | Del. quantity cm3/1000 strokes | | 7.5 | |
| Check | . 0.4 | I | Check tolerance | • | 7.5 | |
| tolerance mm | : 0.7 | 1 | cm3/1000s. | : | 7.5 | |
| Shutoff solenoid | | 1 | Shutoff solenoid | · | | |
| Volt | : 24 | + | Volt | : | 24 | |
| | | + | | | | |
| SUPPLY PUMP PRESS | URE CHARACTERISTIC | + | Rated speed rpm | : | 1700 | |
| | 4.00 | + | Del. quantity | | 4 5 | |
| Rated speed rpm | : 1400 | † | cm3/1000 strokes | : | 1.5 | |
| Supply pomp pressure bar | : 7.5 | Ī | Tolerance cm3/1000 strokes | : | 1.5 | |
| Tolerance hPa | : 0.3 | I | Check tolerance | • | 1' | |
| Shutoff solenoid | . 0.3 | I | cm3/1000s. | • | 1.5 | |
| Volt | : 24 | 1 | Shutoff solenoid | • | ,., | |
| | | + | Volt | : | 24 | |
| Rated speed rpm | : 600 | + | | | | |
| Supply pomp | | + | Rated speed rpm | : | 1580 | |
| pressure bar | : 4.5 | † | Del. quantity | | 70.0 | |
| Tolerance hPa | : 0.3 | † | cm3/1000 strokes | : | 30.0 | |
| Shutoff solenoid | : 24 | † | Tolerance cm3/1000 strokes | | 15.0 | |
| Volt | . 44 | I | Check tolerance | • | 15.0 | |
| OVERFLOW QUANTITY | | I | cm3/1000s. | : | 15.0 | |
| DATE TOW WOULT ! | | 1 | Shutoff solenoid | • | | |
| Rated speed rpm | : 1500 | 1 | Volt | : | 24 | |
| real real real real real real real real | | • | | | - | |

| | | | + Rated speed rpm | | 350 |
|---|---------------------------------|---|---|---|--|
| Rated speed rpm | • | 1500 | Del. quantity | • | 330 |
| Del. quantity | • | 1300 | + cm3/1000 strokes | : | 1.5 |
| cm3/1000 strokes | : | 72.0 | + Tolerance | • | 1.5 |
| Tolerance | | | + cm3/1000 strokes | : | 1.5 |
| cm3/1000 strokes | : | 1.5 | + Spread | • | 113 |
| Check tolerance | • | , | + cm3/1000 strokes | : | 5.0 |
| cm3/1000s. | : | 4.0 | + Check tolerance | • | 210 |
| Shutoff solenoid | • | | + cm3/1000s. | : | 1.5 |
| Volt | : | 24 | + Spread | • | 1.5 |
| | | | + cm3/1000 strokes | : | 5.0 |
| Rated speed rpm | ; | 600 | + | | |
| Del. quantity | | | → IDLE DELIVERY | | |
| cm3/1000 strokes | : | 47.5 | + | | |
| Tolerance | | | + Rated speed rpm | : | 450 |
| cm3/1000 strokes | : | 2.0 | + Del. quantity | | |
| Check tolerance | | | cm3/1000 strokes | : | 1.5 |
| cm3/1000S. | : | 3.5 | + Tolerance | | |
| Shutoff solenoid | | | cm3/1000 strokes | : | 1.5 |
| Volt | : | 24 | + Check tolerance | | |
| | | | ÷ cm3/1000s. | : | 1.5 |
| Rated speed rpm | : | 1000 | + Shutoff solenoid | | |
| Del. quantity | | | + Volt | : | 24 |
| cm3/1000 strokes | : | 64.0 | † | | |
| Tolerance | | | + | | |
| cm3/1000 strokes | : | 0.5 | <u>†</u> | | |
| Check tolerance | | 2.5 | † | | |
| cm3/1000s. | : | 2.5 | † | | |
| Shutoff solenoid | | 24 | CTART TRANSPITAN | | |
| Volt | • | 24 | + START TRANSITION | | |
| | | | T potential and and | | |
| | | | | • | 500 |
| MECHANICAL SHUTOF | F | · <u>-</u> · · · · · · · · · · · · · · · · · · · | Rated speed rpm | : | 500 |
| MECHANICAL SHUTOF | F | | + Del. quantity | | |
| | | 1500 | Del. quantity cm3/1000 strokes | | 500 40.0 |
| Rated speed rpm | | 1500 | + Del. quantity | : | 40.0 |
| | : | 1500 1.5 | Del. quantity cm3/1000 strokes Tolerance | : | 40.0 |
| Rated speed rpm Del. quantity | : | | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 40.0 15.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes | : | | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | 40.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | 40.0 15.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : | 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : : | 40.0 15.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 1.5 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity | : : | 40.0 15.0 24 370 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes | : : | 40.0 15.0 24 370 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 1.5 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : | 40.0 15.0 24 370 75.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 1.5 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 40.0 15.0 24 370 75.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF | : | 1.5 1.5 1.5 24 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | 40.0 15.0 24 370 75.0 20.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 1.5 1.5 1.5 24 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 40.0 15.0 24 370 75.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : | 1.5 1.5 1.5 24 TOP | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | 40.0 15.0 24 370 75.0 20.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. | : | 1.5 1.5 1.5 24 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | : | 40.0 15.0 24 370 75.0 20.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. Rated speed rpm Del. quantity | : : : : LE S | 1.5 1.5 24 TOP 350 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | 40.0 15.0 24 370 75.0 20.0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes | : : : : LE S | 1.5 1.5 1.5 24 TOP | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU | : : : : | 40.0 15.0 24 370 75.0 20.0 24 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : : : | 1.5 1.5 24 TOP 350 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU | : : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : : : : : : | 1.5 1.5 24 TOP 350 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU Dimension KF mm Tolerance mm | : : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 JENT DIMENSIONS 5,8 +-0,2 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : : : : : : | 1.5 1.5 24 TOP 350 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU Dimension KF mm Tolerance mm Dimension MS mm | : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 JENT DIMENSIONS 5,8 +-0,2 1,3 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : : : : : : | 1.5 1.5 24 TOP 350 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU Dimension KF mm Tolerance mm | : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 JENT DIMENSIONS 5,8 +-0,2 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : : : | 1.5 1.5 1.5 24 TOP 350 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU Dimension KF mm Tolerance mm Dimension MS mm | : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 JENT DIMENSIONS 5,8 +-0,2 1,3 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : : : : : : : | 1.5 1.5 24 TOP 350 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU Dimension KF mm Tolerance mm Dimension MS mm | : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 JENT DIMENSIONS 5,8 +-0,2 1,3 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : : | 1.5 1.5 24 TOP 350 1.5 1.5 5.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU Dimension KF mm Tolerance mm Dimension MS mm | : : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 JENT DIMENSIONS 5,8 +-0,2 1,3 +-0,2 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID: Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : : : : : : | 1.5 1.5 24 TOP 350 1.5 1.5 5.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt ASSEMBLY AND ADJU Dimension KF mm Tolerance mm Dimension MS mm Tolerance mm | : : : : : : : : | 40.0 15.0 24 370 75.0 20.0 24 JENT DIMENSIONS 5,8 +-0,2 1,3 +-0,2 |

Control lever position YA mm

: 37,4..40,4

Control leve. position YB mm : 44,0..49,4

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 26,06,96 : ISO 4113

Part no.

: 0 460 426 225 Pump designation: VE6/12F1200R551

Customer-spec. information

: SNF

Customer Motor

: WD 612.42

Power KW

105.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

45

Overflow

restriction mm

0.55

Inlet press. bar :

0.35

Tolerance bar

0.05

Test nozzle holde

assembly

: 1 688 901 110

Opening pressure

bar

250

Tolerance bar

3

Test lines

: 1 680 750 000

Outside diameter : 6.00

x inside diameter :

2.00

x length mm :

840

REMARKS

BEGINNING OF DELIVERY

Prestroke

B23

(as of UT) mm : 0,2 Tolerance mm : +-0,02

Check

tolerance mm

: +-0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

850 Rated speed rpm :

2.2 Setting mm Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm 850

Setting hPa 7.6 Tolerance hPa 0.3

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 66.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 4.0

IDLE SETTING

300 Rated speed rpm Del. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 strokes : 2.0

Spread

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1290

Del. quantity

cm3/1000 strokes :

50.0

Tolerance

cm3/1000 strokes : 3.0

STARTING FUEL DELIVERY

Rated speed rpm :

100

Del. quantity

cm3/1000 strokes :

90.0

| Tolerance cm3/1000 strokes | : 20 | 0.0 | ‡ | Del. quantity cm3/1000 strokes | : | 50.0 |
|-------------------------------|--|-------------|----------|-------------------------------------|---|--------------|
| | | | <u>†</u> | Tolerance cm3/1000 strokes | • | 3.0 |
| | | | Ţ | Check tolerance | • | 5.0 |
| | · - · · · · · · · · · · · · · · · · · · | | <u> </u> | cm3/1000s. | : | 8.5 |
| INJECTION-PUMP TE | ST SPECIA | FICATIONS | 1 | Rated speed rpm Del. quantity | : | 1350 |
| TIMING DEVICE CHA | ARACTERIST | TIC | 1 | cm3/1000 strokes Check tolerance | : | 7.5 |
| Rated speed rpm | : 950 |) | £ | cm3/1000s. | : | 7.5 |
| SV travel mm | : 3 | | Ţ | Rated speed rpm | : | 1400 |
| Tolerance mm Check | : 0 | 1.4 | + | Del. quantity | | 1 - |
| tolerance mm | : 0 |).7 | Ŧ | cm3/1000 strokes Tolerance | | |
| Rated speed rpm | : 750 |) | ‡ | cm3/1000 strokes Check tolerance | : | 1.5 |
| CV down and man | . 1 | 0 | + | cm3/1000s. | : | 1.5 |
| SV travel mm Tolerance mm | : 1 | .U).4 | ‡ | Rated speed rpm | : | 1300 |
| Check | | | + | Del. quantity | | |
| tolerance mm | : 0 |).7 | ‡ | cm3/1000 strokes Tolerance | : | 40.0 |
| SUPPLY PUMP PRESS | URE CHARA | CTERISTIC | Ì | cm3/1000 strokes Check tolerance | : | 25.0 |
| Rated speed rpm | : 1200 |) | + | cm3/1000s. | : | 25.0 |
| Supply pomp pressure bar | : 9 | .3 | Ī | Rated speed rpm | : | 1200 |
| Tolerance hPa | | .3 | ÷ | Del. quantity | | |
| Rated speed rpm | : 600 | 1 | ‡ | cm3/1000 strokes Tolerance | : | 66.3 |
| Supply pomp | | | + | cm3/1000 strokes | : | 2.5 |
| pressure bar Tolerance hPa | ; 5 ; 0 | .8 ⊢ ₹ | İ | Check tolerance cm3/1000s. | | 4.0 |
| | | | + | | • | |
| OVERFLOW QUANTITY | | | + | Rated speed rpm | : | 1000 |
| Rated speed rpm | : 1200 | | Ţ | Del. quantity cm3/1000 strokes | : | 68.5 |
| Overflow quantity | | | + | Tolerance | | |
| ccm/10s Tolerance | : 97 | .2 | ‡ | cm3/1000 strokes Check tolerance | : | 2.5 |
| ccm/10s | : 41 | .6 | \pm | cm3/1000s. | : | 4.0 |
| Check tolerance | | | Ţ | Rated speed rpm | : | 600 |
| ccm/10s | : 41 | .6 | + | Del. quantity | | (5.0 |
| Rated speed rpm | : 600 | | ‡ | cm3/1000 strokes Tolerance | : | 65.0 |
| Overflow quantity ccm/10s | : 63 | • | † | cm3/1000 strokes | : | 4.5 |
| Tolerance | | | Ţ | Check tolerance cm3/1000s. | : | 6.0 |
| ccm/10s | : 22 | .2 | <u> </u> | Rated speed rpm | : | 800 |
| Check tolerance | | | + | Del. quantity | | |
| ccm/10s | : 22 | .2 | † | cm3/1000 strokes Tolerance | : | 66.0 |
| DELIVERY AND BREA | KAWAY CHA | RACTERISTIC | Ŧ | cm3/1000 strokes | : | 0.5 |
| Rated speed rpm | : 1290 | | ‡ | Check tolerance cm3/1000s. | : | 2.5 |
| • | | | • | | | |

MECHANICAL SHUTOFF

Rated speed rpm : 1200

Del. quantity cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Spread

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s : 1.5

Spread

cm3/1000 strokes : 5.0

IDLE DELIVERY

Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 1.5

Tolerance

cm3/1000 strokes : 1.5

Check tolerance

cm3/1000s. : 1.5

START TRANSITION

Rated speed rpm : 430

Del. quantity

cm3/1000 strokes : 65.0

Tolerance

cm3/1000 strokes : 15.0

Rated speed rpm : 330

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 strokes : 20.0

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension KF mm : 6,0 Tolerance mm : +-0,2 Dimension MS mm : 1,1

Tolerance mm : +-0.2

CONTROL LEVER POSITION

SET

B25

Control lever

position YA mm : 36,2..40,2

Control lever

position YB mm : 51,0..59,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.06.96 Test oil : ISO 4113

Part no. : 0 460 426 231 Pump designation : VE6/12F1200R563

Customer-spec. information

Customer : MAN

Motor : D 0826 LOH 06

Power KW 140.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

250 bar Tolerance bar 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 840

REMARKS

BEGINNING OF DELIVERY

Prestroke

: 0,2 (as of UT) mm Tolerance mm : +-0,02

Check

tolerance mm : +-0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

850 Rated speed rpm

Aneroid pressure

1000 hPa

Setting mm 2.2 Tolerance mm 0.2

SUPPLY PUMP PRESSURE

Rated speed rpm 850

Aneroid pressure

hPa 1000

7.5 Setting hPa Tolerance hPa 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

800 Rated speed rpm

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 94.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 4.5

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

600 Rated speed rpm

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 0.5

Check tolerance cm3/1000s. 4.5

IDLE SETTING

Rated speed rpm 250

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : 3.5

Spread

cm3/1000 strokes : 6.0

B26

| Check tolerance cm3/1000s. | : 6.5 | ‡ | Supply pomp pressure bar Tolerance hPa | : : | 6.3 0.3 | |
|--|--------------------|----------|--|--------|---------------|-----|
| FULL-LOAD SPEED R | EGULATION | ‡ | OVERFLOW QUANTITY | , | | |
| Rated speed rpm Pressure hPa | | Ī | Rated speed rpm Overflow quantity | | 600 | |
| Del. quantity cm3/1000 strokes | | 1 | ccm/10s Tolerance | : | 63.8 | |
| Tolerance cm3/1000 strokes | | + | ccm/10s | : | 22.2 | |
| STARTING FUEL DEL | IVERY | + | Check tolerance ccm/10s | : | 22.2 | |
| Rated speed rpm | : 100 | † | Rated speed rpm | : | 1200 | |
| Del. quantity cm3/1000 strokes Tolerance | : 90.0 | + | Aneroid pressure hPa | : | 1000 | |
| cm3/1000 strokes | : 30.0 | Ī | Overflow quantity ccm/10s Tolerance | : | 97.2 | |
| | | Ī | ccm/10s | : | 41.6 | |
| INJECTION-PUMP TE | ST SPECIFICATIONS | - ‡ | Check tolerance ccm/10s | : | 41.6 | |
| TIMING DEVICE CHA | | 1 | DELIVERY AND BREA | KAWA | Y CHARACTERIS | TIC |
| Rated speed rpm | | 1 | Rated speed rpm Aneroid pressure | : | 1350 | |
| Aneroid pressure | : 1000 | ‡ | hPa Del. quantity | : | 1000 | |
| SV travel mm | : 3.3 | + | cm3/1000 strokes Tolerance | : | 65.0 | |
| Tolerance mm Check | : 0.4 | <u> </u> | cm3/1000 strokes Check tolerance | : | 3.0 | |
| tolerance mm | : 0.7 | + | cm3/1000s. | : | 4.5 | |
| Rated speed rpm Aneroid pressure | : 750 | ‡ | Rated speed rpm Aneroid pressure | : | 1510 | |
| hPa | : 1000 | ‡ | hPa Del. quantity | : | 1000 | |
| SV travel mm Tolerance mm | : 1.0 : 0.4 | ‡ | cm3/1000 strokes Check tolerance | : | 7.5 | |
| Check tolerance mm | : 0.7 | + | cm3/1000s. | : | 7.5 | |
| SUPPLY PUMP PRESSU | JRE CHARACTERISTIC | ‡ | Rated speed rpm Aneroid pressure | : | 1550 | |
| Rated speed rpm | : 1200 | ‡ | hPa Del. quantity | : | 1000 | |
| Aneroid pressure hPa | : 1000 | ‡ | cm3/1000 strokes Tolerance | : | 1.5 | |
| Supply pomp pressure bar | : 9.0 | ‡ | cm3/1000 strokes Check tolerance | : | 1.5 | |
| Tolerance hPa | : 0.3 | ‡ | cm3/1000s. | : | 1.5 | |
| Rated speed rpm Aneroid pressure | : 600 | ‡ | Rated speed rpm Aneroid pressure | : | 1440 | |
| hPa | : 1000 | ‡ | hPa | : | 1000 | |

| Del. quantity | | 35.0 | + | - | | | |
|-------------------------------------|---|-------|---|---|-------|------------------|--|
| cm3/1000 strokes Tolerance | | | 1 | - MECHANICAL SHUTO | FF | | |
| cm3/1000 strokes Check tolerance | : | 20.0 | - | L - Rated speed rpm | : | 1200 | |
| cm3/1000s. | : | 20.0 | - | Aneroid pressurehPa | | 1000 | |
| Rated speed rpm Aneroid pressure | : | 600 | + | - Del. quantity - cm3/1000 strokes | : | 1.5 | |
| hPa | : | 400 | 1 | Tolerance cm3/1000 strokes | : | 1.5 | |
| LDA/ HBA stroke mm | : | 6.2 | + | - Spread - cm3/1000 strokes | : | 5.0 | |
| Del. quantity cm3/1000 strokes | • | 80.0 | 1 | - Check tolerance - cm3/1000s. | • | 1.5 | |
| Tolerance cm3/1000 strokes | | 0.5 | 1 | - Spread - cm3/1000 strokes | • | 5.0 | |
| Check tolerance | • | 2.5 | | | • | 7.0 | |
| cm3/1000s. | • | | † | - - | | | |
| Rated speed rpm Aneroid pressure | : | 1200 | ‡ | - IDLE DELIVERY - | | | |
| hPa Del. quantity | : | 1000 | + | Rated speed rpmDel. quantity | : | 400 | |
| cm3/1000 strokes Tolerance | : | 89.5 | + | - cm3/1000 strokes - Tolerance | : | 1.5 | |
| cm3/1000 strokes Check tolerance | : | 2.5 | 1 | - cm3/1000 strokes - Check tolerance | : | 1.5 | |
| cm3/1000s. | : | 4.0 | | - cm3/1000s. | : | 1.5 | |
| Rated speed rpm | : | 1000 | 1 | - | | | |
| Aneroid pressure hPa | : | 1000 | † | • | | | |
| Del. quantity cm3/1000 strokes | : | 91.5 | † | - - | | | |
| Tolerance cm3/1000 strokes | : | 2.5 | + | START TRANSITION | | | |
| Check tolerance cm3/1000s. | : | 4.0 | † | Rated speed rpm Del. quantity | : | 480 | |
| Rated speed rpm | • | 600 | 1 | cm3/1000 strokes Tolerance | : | 60.0 | |
| Aneroid pressure | • | 1000 | 1 | cm3/1000 strokes | : | 20.0 | |
| Del. quantity | • | | 1 | Detail enand wen | | 700 | |
| cm3/1000 strokes Tolerance | | 100.0 | 1 | Rated speed rpm Del. quantity | | 380 | |
| cm3/1000 strokes Check tolerance | : | 4.5 | ‡ | cm3/1000 strokes Tolerance | | 100.0 | |
| cm3/1000s. | : | 6.0 | ‡ | cm3/1000 strokes | : | 20.0 | |
| Rated speed rpm Aneroid pressure | : | 800 | ‡ | ASSEMBLY AND ADJU | JSTME | NT DIMENSIONS | |
| hPa Del. quantity | : | 1000 | 1 | | | | |
| cm3/1000 strokes Tolerance | : | 94.5 | 1 | LDA/ HBA stroke mm | • | 6.2 | |
| cm3/1000 strokes | : | 0.5 | Ŧ | Dimension KF mm | : 6 | 5,0 | |
| Check tolerance cm3/1000s. | : | 2.5 | ‡ | Tolerance mm Dimension MS mm Tolerance mm | : 1 | 0,2 ,1 0,2 | |

CONTROL LEVER POSITION SET

Control lever

: 37,4..40,4 position YA mm

Control lever position YB mm : 41,9..48,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.05.95 Test oil : ISO 4113

Part no. : 0 460 414 108 Pump designation : VE4/11F2000R567

Customer—spec. information
Customer : FORD
Motor : 2.5l DI
Power KW : 56.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 114

Opening pressure

bar : 207 Tolerance bar : 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,52
Tolerance mm : +-0,05
Outlet : B KDFP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 2.7
Tolerance mm : 0.1

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 7.2 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000 Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 34.0

Del. quantity

cm3/1000 strokes : 25.5

Tolerance

cm3/1000 strokes : 0.5

Tolerance

cm3/1000 strokes : 0.2

Spread

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

Shutoff solenoid

Volt : 12

Check tolerance

cm3/1000s. : 4.0

IDLE SETTING

Rated speed rpm : 425

Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 strokes : 1.0

Shutoff solenoid

Volt : 12

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 4.0

C02

| | + | Tolerance hPa Shutoff solenoid | : | 0.3 |
|--|-------------|--------------------------------------|---|------------|
| FULL-LOAD SPEED REGULATI | ION | Volt | : | 12 |
| Rated speed rpm : 22 Del. quantity | 200 | Rated speed rpm Supply pomp | : | 500 |
| cm3/1000 strokes : Tolerance | 23.0 | pressure bar Tolerance hPa | : | 5.5 0.3 |
| cm3/1000 strokes : Shutoff solenoid | 1.0 | Shutoff solenoid Volt | : | 12 |
| Volt : | 12 | Rated speed rpm | : | 1000 |
| STARTING FUEL DELIVERY | 1 | Supply pomp pressure bar | : | 6.7 |
| Rated speed rpm : 1 Del. quantity | 100 | Tolerance hPa Shutoff solenoid | : | 0.3 |
| cm3/1000 strokes : Tolerance | 45.0 | Volt | : | 12 |
| cm3/1000 strokes : Shutoff solenoid | 20.0 | OVERFLOW QUANTITY | | |
| Volt : | 12 | Rated speed rpm Overflow quantity | : | 500 |
| | + | ccm/10s Tolerance | : | 119.4 |
| | | ccm/10s | : | 22.2 |
| INJECTION-PUMP TEST SPEC | CIFICATIONS | Check tolerance ccm/10s | : | 22.2 |
| TIMING DEVICE CHARACTERI | STIC | Shutoff solenoid Volt | : | 12 |
| Rated speed rpm : 20 Tolerance mm : | 000 + | Rated speed rpm | : | 1950 |
| Check tolerance mm : | 0.9 | Overflow quantity ccm/10s | | 150.0 |
| Shutoff solenoid | + | Tolerance | • | |
| Volt : | 12 | ccm/10s | : | 34.7 |
| Rated speed rpm : 10 | 100 | Check tolerance ccm/10s | : | 34.7 |
| SV travel mm : Tolerance mm : | 1.7 | Shutoff solenoid Volt | : | 12 |
| Check tolerance mm | 0.9 | DELIVERY AND BREAK | | |
| Shutoff solenoid | 12 | Rated speed rpm | | 2200 |
| Volt : | + | Del. quantity cm3/1000 strokes | : | |
| | 00 | Tolerance | | 23.0 |
| SV travel mm : Tolerance mm : | 2.9 | cm3/1000 strokes Check tolerance | : | 1.0 |
| Check tolerance mm : | 0.6 | cm3/1000S. Shutoff solenoid | : | 5.0 |
| Shutoff solenoid Volt : | 12 | Volt | : | 12 |
| SUPPLY PUMP PRESSURE CHA | + | Rated speed rpm Del. quantity | : | 2140 |
| Rated speed rpm : 20 | + | cm3/1000 strokes Tolerance | : | 29.5 |
| Supply pomp pressure bar : | 8.9 | cm3/1000 strokes | : | 3.0 |
| • | • | | | |

| Check tolerance | | . 0 | + Tolerance |
|---------------------------------------|------|-------------|--------------------------------|
| cm3/1000s. | : | 6.0 | - cm3/1000 strokes : 1.5 |
| Shutoff solenoid | _ | 12 | + Check tolerance |
| Volt | • | 12 | + cm3/1000s. : 1.5 |
| Dakad anaad asa | | 2770 | + Spread |
| Rated speed rpm | : | 2330 | + cm3/1000 strokes : 5.0 |
| Del. quantity | | , 0 | THE LAND STOP SONTON A FUED |
| cm3/1000 strokes | : | 4.0 | + FULL-LOAD STOP CONTRUL LEVER |
| Tolerance | | | † 2 |
| cm3/1000 strokes | : | 4.0 | + Rated speed rpm : 425 |
| Check tolerance | | , 0 | + Del. quantity |
| cm3/1000s. | : | 4.0 | + cm3/1000 strokes : 1.5 |
| Shutoff solenoid | | 40 | + Tolerance |
| Volt | : | 12 | + cm3/1000 strokes : 1.5 |
| | | | + Spread |
| Aneroid pressure | | | + cm3/1000 strokes : 5.0 |
| hPa | : | | + Check tolerance |
| | | | + cm3/1000s. : 1.5 |
| LDA/ | | | + Spread |
| HBA stroke mm | : | 7.7 | + cm3/1000 strokes : 5.0 |
| | | 4055 | † |
| Rated speed rpm | : | 1950 | † IDLE DELIVERY |
| Del. quantity | | | † <u></u> |
| cm3/1000 strokes | : | 37.0 | + Rated speed rpm : 500 |
| Tolerance | | | + Del. quantity |
| cm3/1000 strokes | : | 1.2 | + cm3/1000 strokes : 3.0 |
| Check tolerance | | | + Tolerance |
| cm3/1000s. | : | 2.5 | + cm3/1000 strokes : 3.0 |
| Shutoff solenoid | | | + Check tolerance |
| Volt | : | 12 | + cm3/1000s. : 3.0 |
| | | | + Shutoff solenoid |
| Rated speed rpm | : | 1700 | † Volt : 12 |
| Del. quantity | | | + |
| cm3/1000 strokes | : | 37.5 | + |
| Tolerance | | | + |
| cm3/1000 strokes | : | 1.2 | + |
| Check tolerance | | | + |
| cm3/1000s. | : | 2.5 | |
| Shutoff solenoid | | | + EXHAUST-GAS RECIRCULATION |
| Volt | : | 12 | + |
| | | | Rated speed rpm : 1250 |
| Rated speed rpm | : | 500 | + Del. quantity |
| Del. quantity | | | + cm3/1000 strokes : 21.3 |
| cm3/1000 strokes | : | 25.5 | + Tolerance |
| Tolerance | | | + cm3/1000 strokes : 0.5 |
| cm3/1000 strokes | : | 0.2 | + Check tolerance |
| Check tolerance | | | + cm3/1000s. : 2.5 |
| cm3/1000s. | : | 3.0 | + Shutoff solenoid |
| Shutoff solenoid | | | + Volt : 12 |
| Volt | : | 12 | + |
| | | | → START TRANSITION |
| | | | + |
| | | | Rated speed rpm : 480 |
| ELECTR. SHUTOFF | | | + Del. quantity |
| | F 6 | TOP | + cm3/1000 strokes : 26.0 |
| | _⊏ ಎ | | + Tolerance |
| | ב א | |) IOCCI GIIOC |
| CONTROL LEVER, IDL | | 425 | |
| CONTROL LEVER, IDL Rated speed rpm | | 425 | |
| CONTROL LEVER, IDL | : | 425 1.5 | + cm3/1000 strokes : 6.0 |

Rated speed rpm : 300

Del. quantity cm3/1000 strokes : 48.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm 7.7

: 2,8 Dimension K mm : +0,1 Tolerance mm Dimension KF mm : 5,4 : +-0,2 Tolerance mm Dimension MS mm : 1,8 : +-0,2 Tolerance mm : 10,0 KSB travel mm TLA travel mm : 2,5

MICROSWITCH SET

: ARF 20,0

CONTROL LEVER POSITION SET

Control lever

: 42,8..45,8 position YA mm

Control lever

position YB mm : 59,5..71,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07,04,95 Edition : ISO 4113 Test oil

Part no. : 0 460 414 113 Pump designation: VE4/11F2000R567-1

Customer-spec. information Customer : FORD Motor : 2.5L DI Power KW 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.75 restriction mm

Inlet press. bar : 0.35Tolerance bar 0.05

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

207 bar Tolerance bar 3

: 1 680 750 073 Test lines

6.00 Outside diameter :

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,52 Tolerance mm : +-0,05

Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

2.5 Setting mm Tolerance mm 0.1 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa 7.4 Tolerance hPa 0.3 Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

41.5

1150 Rated speed rpm Rated speed rpm 1950 Del. quantity

cm3/1000 strokes : 35.0 Del. quantity

cm3/1000 strokes :

Tolerance cm3/1000 strokes : 0.5

Tolerance

cm3/1000 strokes : 0.2

Spread

3.0 cm3/1000 strokes

Shutoff solenoid

12 Volt

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s.4.0

IDLE SETTING

Rated speed rpm 425 Del. quantity

cm3/1000 strokes : 7.0 Tolerance

cm3/1000 strokes : 7.0

Shutoff solenoid

Volt 12 Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.4.0

c06

| | | | ‡ | Tolerance hPa Shutoff solenoid | : | 0.3 | |
|--|-----------|----------------|-------------------|--|--------|------------|---------|
| FULL-LOAD SPEED F | REGU | LATION | † | Volt | : | 12 | |
| Rated speed rpm Del. quantity | : | 2200 | } | Rated speed rpm Supply pomp | : | 500 | |
| cm3/1000 strokes Tolerance | | | + | pressure bar Tolerance hPa | : | 5.7 0.3 | |
| cm3/1000 strokes Shutoff solenoid Volt | : | 1.0 12 | ‡ | Shutoff solenoid Volt | : | 12 | |
| STARTING FUEL DEL | · .IVE | | Ţ | Rated speed rpm Supply pomp | : | 1150 | |
| Rated speed rpm | : | 100 | + | pressure bar Tolerance hPa | : : | 7.2 0.3 | |
| Del. quantity cm3/1000 strokes Tolerance | : | 45.0 | 1 | Shutoff solenoid Volt | : | 12 | |
| cm3/1000 strokes Shutoff solenoid | : | 20.0 | 1 | OVERFLOW QUANTITY | | | |
| Volt | : | 12 | + | Rated speed rpm Overflow quantity | | 1950 | |
| | | | + | ccm/10s Tolerance | : | 150.0 | |
| | | | ‡ | ccm/10s | : | 34.7 | |
| INJECTION-PUMP TE | | | ‡ | Check tolerance ccm/10s Shutoff solenoid | : | 34.7 | |
| TIMING DEVICE CHA | | | + | Volt | : | 12 | |
| Rated speed rpm Tolerance mm Check | : | 2000 0.4 | <u>†</u> | Rated speed rpm Overflow quantity | : | 500 | |
| tolerance mm Shutoff solenoid | : | 0.9 | + | ccm/10s Tolerance | : | 119.4 | |
| Volt | : | 12 | <u> </u> | ccm/10s | : | 22.2 | |
| Rated speed rpm | : | 1000 | ‡ | Check tolerance com/10s | : | 22.2 | |
| SV travel mm Tolerance mm | : | 1.3 0.4 | † † | Shutoff solenoid Volt | : | 12 | |
| Check tolerance mm Shutoff solenoid | : | 0.9 | Ī | DELIVERY AND BREAK | (AWA | Y CHARACT | ERISTIC |
| Volt | : | 12 | + | Rated speed rpm Del. quantity | : | 2200 | |
| Rated speed rpm | : | 500 | Ī | cm3/1000 strokes Tolerance | : | 26.0 | |
| SV travel mm Tolerance mm | : | 2.9 0.1 | ‡ | cm3/1000 strokes Check tolerance | : | 1.0 | |
| Check tolerance mm | : | 0.6 | † + | cm3/1000S. Shutoff solenoid | : | 5.0 | |
| Shutoff solenoid Volt | : | 12 | ‡ | Volt | : | 12 | |
| SUPPLY PUMP PRESSI | JRE | CHARACTERISTIC | ‡ | Rated speed rpm Del. quantity | : | 2300 | |
| Rated speed rpm | : | 2000 | ‡ | cm3/1000 strokes Check tolerance | : | | |
| Supply pomp pressure bar | : | 9.0 | ‡ | cm3/1000s. | : | 6.0 | |

| Shutoff solenoid | | | + Check tolerance | |
|---|---|--|--|--|
| Volt | ; | 12 | + cm3/1000s. : 1.5 | |
| | | | Spread | |
| Rated speed rpm | | 2400 | + cm3/1000 strokes : 5.0 | |
| | • | 2400 | T CIIID/ 1000 SEPORES . 3.0 | |
| Del. quantity | | | † | |
| cm3/1000 strokes | : | 2.5 | + FULL-LOAD STOP CONTROL LEVER | |
| Tolerance | | | | |
| cm3/1000 strokes | | 2.5 | Rated speed rpm : 425 | |
| Check tolerance | • | L. J | | |
| | | 2 5 | + Del. quantity | |
| cm3/1000s. | : | 2.5 | + cm3/1000 strokes : 1.5 | |
| Shutoff solenoid | | | + Tolerance | |
| Volt | : | 12 | + cm3/1000 strokes : 1.5 | |
| | • | | Spread | |
| 0 | | | | |
| Aneroid pressure | | | + cm3/1000 strokes : 5.0 | |
| hPa | : | | + Check tolerance | |
| | | | + cm3/1000s. : 1.5 | |
| LDA/ | | | + Spread | |
| HBA stroke mm | : | 7.2 | + cm3/1000 strokes : 5.0 | |
| HON SELOKE HIII | • | 7.2 | T CIID/1000 SETORES . J.U | |
| | | 4700 | † | |
| Rated speed rpm | : | 1700 | † IDLE DELIVERY | |
| Del. quantity | | | + | |
| cm3/1000 strokes | • | 41.0 | Rated speed rpm : 500 | |
| Tolerance | • | ,,,, | + Del. quantity | |
| | | 4 2 | | |
| cm3/1000 strokes | : | 1.2 | + cm3/1000 strokes : 3.0 | |
| Check tolerance | | | + Tolerance | |
| c m3/1000s . | : | 2.5 | + cm3/1000 strokes : 3.0 | |
| Shutoff solenoid | | | - Check tolerance | |
| Volt | | 12 | + cm3/1000s. : 3.0 | |
| VOLL | • | 12 | | |
| | | | + Shutoff solenoid | |
| Rated speed rpm | : | 500 | + Volt : 12 | |
| Del. quantity | | | + | |
| | | | | |
| | • | 28.5 | 1 | |
| cm3/1000 strokes | : | 28.5 | <u>†</u> | |
| cm3/1000 strokes Tolerance | | | ‡ | |
| cm3/1000 strokes Tolerance cm3/1000 strokes | | 28.5 3.0 | ‡ | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | | 3.0 | † † | |
| cm3/1000 strokes Tolerance cm3/1000 strokes | | | | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | | 3.0 | EXHAUST-GAS RECTROULATION | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | | 3.0 4.0 | EXHAUST-GAS RECIRCULATION | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | | 3.0 | + | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 3.0 4.0 12 | + Rated speed rpm : 1250 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm | : | 3.0 4.0 12 | + Rated speed rpm : 1250 + Del. quantity | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity | : | 3.0 4.0 12 1950 | + Rated speed rpm : 1250 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity | : | 3.0 4.0 12 1950 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes | : | 3.0 4.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : | 3.0 4.0 12 1950 41.5 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 3.0 4.0 12 1950 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 3.0 4.0 12 1950 41.5 0.2 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 3.0 4.0 12 1950 41.5 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 3.0 4.0 12 1950 41.5 0.2 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 3.0 4.0 12 1950 41.5 0.2 3.0 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 3.0 4.0 12 1950 41.5 0.2 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 3.0 4.0 12 1950 41.5 0.2 3.0 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 3.0 4.0 12 1950 41.5 0.2 3.0 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 3.0 4.0 12 1950 41.5 0.2 3.0 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 3.0 4.0 12 1950 41.5 0.2 3.0 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF | : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. | : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : 6.0 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity | : : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : 6.0 Shutoff solenoid | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. | : : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : 6.0 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes | : : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : 6.0 Shutoff solenoid | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 STOP 425 1.5 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : 6.0 Shutoff solenoid | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes | : : : : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : 6.0 Shutoff solenoid Volt : 12 | |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID. Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : : : | 3.0 4.0 12 1950 41.5 0.2 3.0 12 STOP 425 1.5 | Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.5 Shutoff solenoid Volt : 12 START TRANSITION Rated speed rpm : 480 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : 6.0 Shutoff solenoid | |

Del. quantity

cm3/1000 strokes : 48.0

Tolerance

cm3/1000 strokes : 15.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 7.2

: 2,8 Dimension K mm : +-0,1 Tolerance mm Dimension KF mm : 5,4 Tolerance mm : +-0,2 Dimension MS mm : 1,8 Tolerance mm : +-0,2 : 10,0 KSB travel mm TLA travel mm : 2,5

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 41,0..44,0

Control lever

position YB mm : 63,0..75,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.06.96 Test oil : ISO 4113

: 0 460 494 367 Part no. Pump designation : VE4/9F2250R601

Customer-spec. information

Customer : PSA

: XUD 9 BTF/L3 U6 Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 450 :

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,3 Tolerance mm : +-0,02

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

hPa 1000

9.5 Setting mm Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa 1000

Setting hPa 6.8 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250 Aneroid pressure

hPa 1000 Del. quantity

cm3/1000 strokes : 54.0 Tolerance

cm3/1000 strokes :

Spread cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. 3.0 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

0.5

Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 36.5

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

Check tolerance cm3/1000s. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 490

| Del. quantity | 2.5 | † | | | |
|---|--|--|---|---|-----|
| cm3/1000 strokes | : 8.5 | + SV travel mm | : | 8.2 | |
| Tolerance cm3/1000 strokes | : 0.5 | + Tolerance mm | : | 0.4 | |
| Shutoff solenoid | . 0.5 | + Check + tolerance mm | | 0.7 | |
| Volt | : 12 | Shutoff solenoid | • | 0.7 | |
| | | + Volt | : | 12 | |
| FULL-LOAD SPEED R | EGULATION | + | | | |
| | | + Rated speed rpm | | 2000 | |
| Rated speed rpm | : 2575 | + Aneroid pressure | | | |
| Pressure hPa | : 1000 | † hPa | : | 1000 | |
| Del. quantity cm3/1000 strokes | : 14.0 | + Rated speed rpm | : | 2000 | |
| Tolerance | . 14.0 | Aneroid pressure | | 2000 | |
| cm3/1000 strokes | : 2.0 | + hPa | : | 1000 | |
| Shutoff solenoid | | + | , | , 555 | |
| Volt | : 12 | + SV travel mm | : | 0.6 | |
| | | † Tolerance mm | : | 0.6 | |
| STARTING FUEL DEL | IVERY | + Check | | 0 (| |
| Rated speed rpm | : 150 | † tolerance mm † Shutoff solenoid | : | 0.6 | |
| Del. quantity | . 100 | + Volt | • | 12 | |
| cm3/1000 strokes | : 52.0 | + | • | | |
| Tolerance | | + Timing device | | | |
| cm3/1000 strokes | : 15.0 | + solenoid Volt | : | 100 | |
| Shutoff solenoid | . 12 | † Dated and date | _ | 700 | |
| Volt | : 12 | + Rated speed rpm + Aneroid pressure | : | 300 | |
| SET GRADUATED STA | RTING DELIVER | | : | 1000 | |
| CONTROL LEVER, ID | | + | • | , , , , | |
| | | + SV travel mm | : | 6.6 | |
| Rated speed rpm | : 200 | + Tolerance mm | : | 0.6 | |
| Del. quantity | | + Check | | | |
| | · 57.0 | tolerance mm | • | 0.6 | |
| cm3/1000 strokes | : 53.0 | tolerance mm Shutoff solenoid | : | 0.6 | |
| | | tolerance mm Shutoff solenoid Volt | : | 0.6 12 | |
| cm3/1000 strokes Tolerance | : 3.0 | + Shutoff solenoid | : | | |
| cm3/1000 strokes Tolerance cm3/1000 strokes | | + Shutoff solenoid | : : SURE | 12 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : 3.0 | Shutoff solenoid Volt SUPPLY PUMP PRESS | | 12 CHARACTERIS | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : 3.0 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm | : : SURE : | 12 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : 3.0 | Shutoff solenoid Volt SUPPLY PUMP PRESS | | 12 CHARACTERIS 1600 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : 3.0 : 12 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa | | 12 CHARACTERIS 1600 1000 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION—PUMP TE | : 3.0 : 12 ST SPECIFICATE | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar | | 12 CHARACTERIS 1600 1000 7.3 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | : 3.0 : 12 ST SPECIFICATE | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa | | 12 CHARACTERIS 1600 1000 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA | : 3.0 : 12 ST SPECIFICATE | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid | | 12 CHARACTERIS 1600 1000 7.3 0.3 | тіс |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm | : 3.0 : 12 ST SPECIFICATE | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa | | 12 CHARACTERIS 1600 1000 7.3 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA | : 3.0 : 12 ST SPECIFICATE | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt | | 12 CHARACTERIS 1600 1000 7.3 0.3 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure | | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 : 11.5 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | | 12 CHARACTERIS 1600 1000 7.3 0.3 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp | | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 1000 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 : 11.5 : 0.4 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar | | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 1000 6.0 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 : 11.5 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Tolerance hPa | | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 1000 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 : 11.5 : 0.4 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar | | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 1000 6.0 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 : 11.5 : 0.4 : 0.7 : 12 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt | : | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 1000 6.0 0.3 12 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 : 11.5 : 0.4 : 0.7 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Rated speed rpm | | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 1000 6.0 0.3 | TIC |
| cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt | : 3.0 : 12 ST SPECIFICATE RACTERISTIC : 1600 : 1000 : 11.5 : 0.4 : 0.7 : 12 | Shutoff solenoid Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt | : | 12 CHARACTERIS 1600 1000 7.3 0.3 12 750 1000 6.0 0.3 12 | TIC |

| Summels and | | | | 1 | Data dana da um | | 2750 |
|-------------------------------------|-----|-------------|--------|---|-------------------------------------|---|---------|
| Supply pomp pressure bar | • | 5.3 | | 1 | Rated speed rpm Aneroid pressure | : | 2750 |
| Tolerance hPa | : | 0.3 | | 1 | hPa | : | 1000 |
| Shutoff solenoid | | | | + | Del. quantity | | |
| Volt | : | 12 | | + | cm3/1000 strokes | : | 3.0 |
| OVERFLOW QUANTITY | | | | † | Tolerance cm3/1000 strokes | | 3.0 |
| OVERTEON QUANTITIE | | | | I | Check tolerance | • | ٥.0 |
| Rated speed rpm | : | 2150 | | + | cm3/1000s. | : | 3.0 |
| Aneroid pressure | | | | + | Shutoff solenoid | | |
| hPa | : | 1000 | | † | Volt | : | 12 |
| Overflow quantity ccm/10s | • | 119.4 | | I | Rated speed rpm | : | 750 |
| Tolerance | · | | | 1 | Aneroid pressure | • | , , , , |
| ccm/10s | : | 41.6 | | + | hPa | : | 350 |
| Charle talananas | | | | † | Del. quantity cm3/1000 strokes | : | 45.5 |
| Check tolerance ccm/10s | | 41.6 | | Ī | Tolerance | • | 43.3 |
| Shutoff solenoid | • | 11.0 | | 1 | cm3/1000 strokes | : | 0.5 |
| Volt | : | 12 | | + | Check tolerance | | |
| Dahad annad man | | 500 | | † | cm3/1000s. | : | 3.0 |
| Rated speed rpm Aneroid pressure | : | טטכ | | Ī | Shutoff solenoid Volt | • | 12 |
| hPa | : | 1000 | | 1 | VOCC | • | , , |
| Overflow quantity | | | | + | Rated speed rpm | : | 2150 |
| ccm/10s | : | 72.2 | | † | Aneroid pressure hPa | _ | 1000 |
| Tolerance ccm/10s | • | 22.2 | | I | Del. quantity | • | 1000 |
| | • | 20.2 | | + | cm3/1000 strokes | : | 50.5 |
| Check tolerance | | | | + | Tolerance | | |
| ccm/10s | : | 22.2 | | † | cm3/1000 strokes | : | 1.0 |
| Shutoff solenoid Valt | • | 12 | | I | Check tolerance cm3/1000s. | • | 2.2 |
| 1011 | • | | | + | Shutoff solenoid | • | |
| DELIVERY AND BREAK | KAW | AY CHARACTE | RISTIC | + | Volt | : | 12 |
| Poted speed spm | : | 2575 | | † | Rated speed rpm | : | 2000 |
| Rated speed rpm Aneroid pressure | ٠ | 2313 | | I | Aneroid pressure | • | 2000 |
| hPa | : | 1000 | | + | hPa | : | 1000 |
| Del. quantity | | | | + | Del. quantity | | |
| cm3/1000 strokes | : | 14.0 | | † | cm3/1000 strokes Tolerance | : | 51.5 |
| Tolerance cm3/1000 strokes | • | 2.0 | | I | cm3/1000 strokes | : | 1.0 |
| Check tolerance | • | 2.0 | | + | Check tolerance | • | |
| cm3/1000s. | : | 4.0 | | + | cm3/1000s. | : | 2.2 |
| Shutoff solenoid Volt | | 12 | | 1 | Shutoff solenoid Volt | • | 12 |
| VOCC | • | 12 | | Į | VOCC | • | 12 |
| Rated speed rpm | : | 2375 | | ÷ | Rated speed rpm | : | 500 |
| Aneroid pressure | | 4000 | | + | Aneroid pressure | | 4000 |
| hPa Del. quantity | : | 1000 | | 1 | hPa Del. quantity | : | 1000 |
| cm3/1000 strokes | : | 39.0 | | Ţ | cm3/1000 strokes | : | 48.3 |
| Tolerance | | | | + | Tolerance | | |
| cm3/1000 strokes | : | 5.0 | | + | cm3/1000 strokes | : | 1.5 |
| Check tolerance cm3/1000s. | • | 6.0 | | Ī | Check tolerance cm3/1000s. | • | 3.0 |
| Shutoff solenoid | • | 0.0 | | + | Shutoff solenoid | • | 5.0 |
| Volt | : | 12 | | + | Volt | : | 12 |
| | | | | + | | | |

| Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt MECHANICAL SHUTOF | : 1000 : 54.0 : 0.5 : 2.2 : 12 | Del. quantity cm3/1000 strokes : 28.5 Tolerance cm3/1000 strokes : 1.0 Check tolerance cm3/1000s. : 4.0 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 15.0 |
|---|--|---|
| Rated speed rpm Aneroid pressure hPa Del. quantity | : 1000 | Tolerance cm3/1000 strokes : 1.0 Check tolerance cm3/1000S. : 4.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | + | Volt : 12 START TRANSITION |
| cm3/1000S. Shutoff solenoid Volt | : 1.5 : 12 | Rated speed rpm : 380 Del. quantity cm3/1000 strokes : 35.0 Tolerance |
| ELECTR. SHUTOFF CONTROL LEVER, ID | + | cm3/1000 strokes : 10.0 Shutoff solenoid Volt : 12 |
| Rated speed rpm Del. quantity cm3/1000 strokes | + | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| Tolerance cm3/1000 strokes Check tolerance cm3/1000S. FULL-LOAD STOP CO | : 1.5 | Dimension K mm : 3,3 Tolerance mm : +-0,1 Dimension KF mm : 6,0 Tolerance mm : +-0,2 Dimension MS mm : 1,3 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : 400 | Tolerance mm : +-0,2 POTENTIOMETER SET |
| cm3/1000 strokes | : 1.5 | 1. measurement |
| Check tolerance cm3/1000s. | : 1.5 | voltage Volt : 5,0 1. measurement voltage Volt : 1,9 |
| | : 1.5 | |
| | + + + + + + + | <pre>1. measurement voltage Volt : 1,9 CONTROL LEVER POSITION</pre> |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.06.96 Test oil : ISO 4113

Part no. : 0 460 494 382 Pump designation: VE4/9F2250R601-1

Customer-spec. information

Customer : PSA

Motor : XUD9 BTF-L3 Power KW 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

0.35 Inlet press. bar : 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 har 3 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1250 Rated speed rpm

Aneroid pressure

hPa 1000

9.5 Setting mm Tolerance mm 0.2 Shutoff solenoid

Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure

hPa 1000

Setting hPa 6.8 Tolerance hPa 0.3

Shutoff solenoid Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

12

Rated speed rpm 1250

Aneroid pressure

1000 Del. quantity

cm3/1000 strokes : 54.0 Tolerance

cm3/1000 strokes :

0.5 Spread

cm3/1000 strokes : 2.0

Check tolerance cm3/1000s.3.0

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 36.5

Tolerance

cm3/1000 strokes 0.5

Shutoff solenoid

12

Voit

Check tolerance

cm3/1000s.3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

490 Rated speed rpm

Del. quantity

cm3/1000 strokes :

8.5

Tolerance

cm3/1000 strokes : 0.5

| Shutoff solenoid Volt | : 12 | + Check + tolerance mm | : 0.7 |
|-------------------------------------|-----------------------|--|---------------------|
| FULL-LOAD SPEED F | REGULATION | + Shutoff solenoid + Volt | : 12 |
| Rated speed rpm Pressure hPa | | Rated speed rpm Aneroid pressure | |
| Del. quantity cm3/1000 strokes | | hPa | : 1000 |
| Tolerance cm3/1000 strokes | | Rated speed rpm Aneroid pressure | |
| Shutoff solenoid | : 12 | hPa hPa | : 1000 |
| 1011 | | SV travel mm | : 0.6 |
| STARTING FUEL DEL | .IVERY | + Tolerance mm + Check | : 0.6 |
| Rated speed rpm Del. quantity | : 150 | tolerance mm Shutoff solenoid | : 0.7 |
| cm3/1000 strokes Tolerance | : 52.0 | + Volt | : 12 |
| cm3/1000 strokes | : 15.0 | + Timing device | |
| Shutoff solenoid Volt | : 12 | t solenoid Volt | : 100 |
| VOCC | . 12 | Rated speed rpm | : 300 |
| SET GRADUATED STA | | + Aneroid pressure | |
| CONTROL LEVER, ID | LE STOP | † hPa | : 1000 |
| Rated speed rpm | : 200 | SV travel mm | : 6.6 |
| Del. quantity | 57.0 | + Tolerance mm | : 0.4 |
| cm3/1000 strokes Tolerance | : 53.0 | + Check + tolerance mm | : 0.7 |
| cm3/1000 strokes | : 3.0 | + Shutoff solenoid | . 0.7 |
| Shutoff solenoid | 40 | + Volt | : 12 |
| Volt | : 12 | SUPPLY PUMP PRESS | SURE CHARACTERISTIC |
| | | Rated speed rpm | : 1600 |
| TN.IECTION-PIMP TE | ST SPECIFICATIONS | + Aneroid pressure + hPa | : 1000 |
| 1100011011 1011 10 | or of Edit Text Total | + Supply pomp | . 1000 |
| TIMING DEVICE CHA | RACTERISTIC | pressure bar | : 7.3 |
| Rated speed rpm | : 1600 | + Tolerance hPa + Shutoff solenoid | : 0.3 |
| Aneroid pressure | : 1000 | + Volt | : 12 |
| SV travel mm | : 11.5 | Rated speed rpm Aneroid pressure | : 750 |
| Tolerance mm Check | : 0.4 | hPa Supply pomp | : 1000 |
| tolerance mm | : 0.7 | pressure bar | : 6.0 |
| Shutoff solenoid | 40 | + Tolerance hPa | : 0.3 |
| Volt | : 12 | + Shutoff solenoid + Volt | : 12 |
| Rated speed rpm Aneroid pressure | : 750 | Rated speed rpm | : 300 |
| hPa | : 1000 | + Aneroid pressure | |
| SV travel mm | | + hPa | : 1000 |
| | : 8.2 | + Supply Domo | |
| Tolerance mm | : 8.2 : 0.4 | Supply pomp pressure bar Tolerance hPa | : 5.3 : 0.3 |

| Shutoff solenoid Volt | : | 12 | + | Del. quantity cm3/1000 strokes | : | 3.0 |
|--|---|--|--|--|---|---|
| OVERFLOW QUANTITY | | | ‡ | Tolerance cm3/1000 strokes | : | 3.0 |
| Rated speed rpm | | 2150 | 1 | Check tolerance cm3/1000s. | | 3.0 |
| Aneroid pressure | • | | Ŧ | Shutoff solenoid | • | |
| hPa Overflow quantity | : | 1000 | ‡ | Volt | : | 12 |
| ccm/10s | : | 119.4 | + | Rated speed rpm | : | 750 |
| Tolerance ccm/10s | : | 41.6 | ‡ | Aneroid pressure hPa | : | 350 |
| Check tolerance | | | <u> </u> | Del. quantity cm3/1000 strokes | | 45.5 |
| ccm/10s | : | 41.6 | + | Tolerance | | |
| Shutoff solenoid Volt | : | 12 | ‡ | cm3/1000 strokes Check tolerance | : | 0.5 |
| | | 500 | + | cm3/1000s. | : | 3.0 |
| Rated speed rpm Aneroid pressure | : | 500 | ‡ | Shutoff solenoid Volt | : | 12 |
| hPa Overflow quantity | : | 1000 | † | Rated speed rpm | : | 2150 |
| ccm/10s | : | 72.2 | Į | Aneroid pressure | • | |
| Tolerance ccm/10s | : | 22.2 | 1 | hPa Del. quantity | : | 1000 |
| | • | ÇE, Ç | + | cm3/1000 strokes | : | 50.5 |
| Check tolerance ccm/10s | : | 24.7 | ‡ | Tolerance cm3/1000 strokes | : | 1.0 |
| Shutoff solenoid | | 12 | + | Check tolerance cm3/1000s. | | 2.2 |
| Volt | • | | Ţ | Shutoff solenoid | • | |
| DELIVERY AND BREA | KAWA | AY CHARACT | ERISTIC + | Volt | : | 12 |
| Rated speed rpm | : | 2575 | + | Rated speed rpm | : | 2000 |
| Aneroid pressure | | 4000 | ‡ | Aneroid pressure hPa | | 1000 |
| hPa | : | 1000 | | ura | : | 1000 |
| Del. quantity | : | | + | Del. quantity | : | |
| Del. quantity cm3/1000 strokes Tolerance | : | 14.0 | + | Del. quantity cm3/1000 strokes Tolerance | : | 51.5 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | • | |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | | 14.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 51.5 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 14.0 2.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 51.5 1.0 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 14.0 2.0 4.0 12 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 51.5 1.0 2.2 12 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure | | 14.0 2.0 4.0 12 2375 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure | : | 51.5 1.0 2.2 12 500 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | : | 14.0 2.0 4.0 12 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | : | 51.5 1.0 2.2 12 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : | 14.0 2.0 4.0 12 2375 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : | 51.5 1.0 2.2 12 500 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity | : | 14.0 2.0 4.0 12 2375 1000 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 51.5 1.0 2.2 12 500 1000 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 14.0 2.0 4.0 12 2375 1000 39.0 5.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 51.5 1.0 2.2 12 500 1000 48.3 1.5 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 14.0 2.0 4.0 12 2375 1000 39.0 5.0 6.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 51.5 1.0 2.2 12 500 1000 48.3 1.5 3.0 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 14.0 2.0 4.0 12 2375 1000 39.0 5.0 | +++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 51.5 1.0 2.2 12 500 1000 48.3 1.5 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm | : | 14.0 2.0 4.0 12 2375 1000 39.0 5.0 6.0 | +++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm | : | 51.5 1.0 2.2 12 500 1000 48.3 1.5 3.0 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 14.0 2.0 4.0 12 2375 1000 39.0 5.0 6.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 51.5 1.0 2.2 12 500 1000 48.3 1.5 3.0 |

| Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.2 Shutoff solenoid Volt : 12 Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | : 1.0 : 4.0 : 12 |
|--|--------------------------|
| Tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. Shutoff solenoid cm3/1000s. : 2.2 Shutoff solenoid Volt : 12 Rated speed rpm Aneroid pressure | : 4.0 |
| cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 2.2 Shutoff solenoid Volt : 12 cm3/1000s. Shutoff solenoid Volt Rated speed rpm Aneroid pressure | |
| Check tolerance Shutoff solenoid volt : 12 Shutoff solenoid Volt : 12 Rated speed rpm Aneroid pressure | |
| Shutoff solenoid Volt : 12 | : 12 |
| Volt : 12 + Rated speed rpm + Aneroid pressure | |
| Aneroid pressure | |
| | : 500 |
| 1 hDa | |
| | : 1000 |
| MECHANICAL SHUTOFF + Del. quantity cm3/1000 strokes | : 15.0 |
| Rated speed rpm : 2000 + Tolerance | : 13.0 |
| Aneroid pressure + cm3/1000 strokes | : 1.0 |
| hPa : 1000 + Check tolerance | |
| Del. quantity \(\psi\) cm3/1000s. | : 4.0 |
| cm3/1000 strokes : 1.5 + Shutoff solenoid | |
| Tolerance + Volt | : 12 |
| cm3/1000 strokes : 1.5 | |
| Check tolerance + START TRANSITION | |
| cm3/1000s. : 1.5 + | 706 |
| Shutoff solenoid + Rated speed rpm | : 380 |
| Volt : 12 + Del. quantity | . 75.0 |
| + cm3/1000 strokes + Tolerance | : 35.0 |
| ELECTR. SHUTOFF + cm3/1000 strokes | : 10.0 |
| CONTROL LEVER, IDLE STOP + Shutoff solenoid | . 10.0 |
| + Volt | : 12 |
| Rated speed rpm : 400 | |
| Del. quantity + | |
| cm3/1000 strokes : 1.5 | |
| Tolerance + ASSEMBLY AND ADJUS | TMENT DIMENSIONS |
| cm3/1000 strokes : 1.5 | - - |
| | : 3,3 |
| | : +-0,1 |
| | : 6,0 : +-0,2 |
| | : 1,3 |
| | : +-0,2 |
| Del. quantity | |
| cm3/1000 strokes : 1.5 + POTENTIOMETER | |
| Tolerance + SET | |
| cm3/1000 strokes : 1.5 + | |
| Check tolerance + 1. measurement | |
| | : 5,0 |
| 1. measurement | . ADE4=2 0 W |
| | : ARF1=2,0 V |
| + 2. measurement + voltage Volt | : ARF2=1,1 V |
| T voltage volt | • MNC2-1/1 V |
| \mathbf{I} | |
| | TION |
| | |
| EXHAUST-GAS RECIRCULATION + SET | |
| + | |
| Rated speed rpm : 1250 + Control lever | |
| Rated speed rpm : 1250 + Control lever | : 25,829,8 |
| Rated speed rpm : 1250 Aneroid pressure Control lever position YA mm Del. quantity | : 25,829,8 |
| Rated speed rpm : 1250 Aneroid pressure hPa : 1000 | : 25,829,8 : 36,150,1 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.06.96 : ISO 4113 Test oil

: 0 460 494 427 Part no. Pump designation: VE4/9F2250R601-2

Customer-spec. information

Customer : PSA

: XUD9 BTF-L3 Motor Power KW 66.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55 :

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter : x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1250 Aneroid pressure

1000 hPa

9.5 Setting mm Tolerance mm 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Aneroid pressure

1000 hPa

Setting hPa 6.8 Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

54.0

Rated speed rpm 1250 Aneroid pressure

hPa 1000 Del. quantity

cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0 Check tolerance

cm3/1000s.

3.0 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm Del. quantity

cm3/1000 strokes : 36.5

Tolerance

cm3/1000 strokes 0.5

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s. 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 490 Del. quantity

cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes : 0.5

| Shutoff solenoid | | i | |
|--|------------------------------------|---|--------------------|
| Volt | : 12 | Rated speed rpm Aneroid pressure | : 750 |
| FULL-LOAD SPEED R | REGULATION | hPa | : 1000 |
| Rated speed rpm Pressure hPa | : 2575 : 1000 | SV travel mm Tolerance mm | : 8.2 : 0.4 |
| Del. quantity cm3/1000 strokes Tolerance | : 14.0 | + Check + tolerance mm + Shutoff solenoid | : 0.7 |
| cm3/1000 strokes Shutoff solenoid | : 2.0 | Volt | : 12 |
| Volt | : 12 | Rated speed rpm Aneroid pressure | : 2000 |
| STARTING FUEL DEL | IVERY | hPa | : 1000 |
| Rated speed rpm Del. quantity | : 150 | Rated speed rpm Aneroid pressure | : 2000 |
| cm3/1000 strokes Tolerance | : 52.0 | hPa | : 1000 |
| cm3/1000 strokes Shutoff solenoid | : 15.0 | SV travel mm Tolerance mm | : 0.6 : 0.6 |
| Volt | : 12 | + Check + tolerance mm | : 0.7 |
| SET GRADUATED STA CONTROL LEVER, ID | | + Shutoff solenoid + Volt | : 12 |
| Rated speed rpm Del. quantity | : 200 | Timing device solenoid Volt | : 100 |
| cm3/1000 strokes Shutoff solenoid | : 53.0 | Rated speed rpm | |
| Volt | : 12 | Aneroid pressure | : 1000 |
| SETTING GRAD. STA FULL-LOAD STOP CO | RTING FUEL DELIVERY NTROL LEVER | SV travel mm | : 6.6 |
| Rated speed rpm | | Tolerance mm Check | : 0.4 |
| Del. quantity cm3/1000 strokes | | tolerance mm Shutoff solenoid | : 0.7 |
| Tolerance cm3/1000 strokes | : 1.0 | + Volt | : 12 |
| Shutoff solenoid Volt | : 12 | + | URE CHARACTERISTIC |
| | | + Rated speed rpm + Aneroid pressure | |
| INJECTION-PUMP TE | ST SPECIFICATIONS | + hPa + Supply pomp | : 1000 |
| TIMING DEVICE CHA | RACTERISTIC | + pressure bar + Tolerance hPa | : 7.3 : 0.3 |
| Rated speed rpm | : 1600 | + Shutoff solenoid + Volt | : 12 |
| Aneroid pressure hPa | : 1000 | Rated speed rpm Aneroid pressure | : 750 |
| SV travel mm Tolerance mm | : 11.5 : 0.4 | hPa Supply pomp | : 1000 |
| Check tolerance mm | : 0.7 | pressure bar Tolerance hPa | : 6.0 : 0.3 |
| Shutoff solenoid Volt | : 12 | Shutoff solenoid Volt | : 12 |
| | | • | · - |

| | | | - 1 1 | | | |
|-------------------------------------|----------------|-----------|----------------------|------------------------|---|-------|
| Rated speed rpm | : 300 | 1 | check t | olerance | | 6.0 |
| Aneroid pressure | . 500 | 1 | | solenoid | • | 0.0 |
| hPa | : 1000 | + | Volt | | : | 12 |
| Supply pomp | . 57 | † | | | | 2750 |
| pressure bar Tolerance hPa | : 5.3 : 0.3 | 1 | | peed rpm pressure | : | 2750 |
| Shutoff solenoid | . 0.5 | 1 | hPa | pressure | : | 1000 |
| Volt | : 12 | + | Del. qu | | | |
| OUEDELOU OUANTEEN | | † | | 0 strokes | : | 3.0 |
| OVERFLOW QUANTITY | | 1 | Toleran | ice 10 strokes | : | 3.0 |
| Rated speed rpm | : 2150 | 1 | | olerance | • | 5.0 |
| Aneroid pressure | | + | cm3/100 | os. | : | 3.0 |
| hPa | : 1000 | † | | solenoid | | 40 |
| Overflow quantity ccm/10s | : 119.4 | 1 | Volt | | : | 12 |
| Tolerance | | 4 | Rated s | peed rpm | : | 750 |
| ccm/10s | : 41.6 | + | Aneroid | pressure | | |
| Object Andrews | | † | hPa | . • . | : | 350 |
| Check tolerance ccm/10s | : 41.6 | Ī | Del. qu | antity O strokes | | 45.5 |
| Shutoff solenoid | , ,,,, | 1 | Toleran | | • | 40.0 |
| Volt | : 12 | + | | O strokes | : | 0.5 |
| Dated aread are | : 500 | † | Check t cm3/100 | olerance | | 3.0 |
| Rated speed rpm Aneroid pressure | : 300 | 1 | | us. solenoid | • | 3.0 |
| hPa | : 1000 | + | Volt | 00101010 | : | 12 |
| Overflow quantity | | + | | | | |
| ccm/10s Tolerance | : 72.2 | † | | peed rpm | : | 2150 |
| ccm/10s | : 22.2 | I | hPa | pressure | • | 1000 |
| • | | + | Del. qu | | Ť | |
| Check tolerance | 2/ 7 | + | | O strokes | : | 50.5 |
| ccm/10s Shutoff solenoid | : 24.7 | Ī | Toleran | ce O strokes | | 1.0 |
| Volt | : 12 | Ţ | | olerance | • | 1.0 |
| | | + | cm3/100 | | : | 2.2 |
| DELIVERY AND BREAK | KAWAY CHARACT | ERISTIC + | | solenoid | | 12 |
| Rated speed rpm | : 2575 | I | Volt | | • | 12 |
| Aneroid pressure | . 25,5 | + | Rated s | peed rpm | : | 2000 |
| hPa | : 1000 | + | | pressure | | 4000 |
| Del. quantity cm3/1000 strokes | : 14.0 | 1 | hPa Del. qua | antitu | : | 1000 |
| Tolerance | . 14.0 | I | | O strokes | : | 51.5 |
| cm3/1000 strokes | : 2.0 | + | Toleran | ce | | |
| Check tolerance | / 0 | + | | D _. strokes | : | 1.0 |
| cm3/1000S. Shutoff solenoid | : 4.0 | Ī | cm3/100 | olerance No | | 2.2 |
| Volt | : 12 | 1 | | solenoid | • | ٠,٠ |
| | | + | Volt | | : | 12 |
| Rated speed rpm | : 2375 | † | Poted o | acad nam | | 500 |
| Aneroid pressure hPa | : 1000 | I | | peed rpm pressure | : | טטכ |
| Del. quantity | | + | hPa | | : | 1000 |
| cm3/1000 strokes | : 39.0 | + | Del. qua | | _ | / O 📆 |
| Tolerance cm3/1000 strokes | : 5.0 | 1 | cm3/1000 Tolerand |] strokes | : | 48.3 |
| CHID/ TOUG SET UKES | . , | I | | ostrokes | : | 1.5 |
| | | , | | | | |

| Check tolerance | | | _1_ | | |
|-------------------------------------|------|---------|----------|--|------------------|
| cm3/1000s. | : | 3.0 | Ţ | | |
| Shutoff solenoid Volt | • | 12 | 1 | EXHAUST-GAS RECIF | RCULATION |
| VOCC | • | 16 | Ţ | Rated speed rpm | : 1250 |
| Rated speed rpm | : | 1250 | + | Aneroid pressure | |
| Aneroid pressure hPa | | 1000 | † | hPa Del. quantity | : 1000 |
| Del. quantity | • | 1000 | I | cm3/1000 strokes | : 28.5 |
| cm3/1000 strokes | : | 54.0 | + | Tolerance | |
| Tolerance cm3/1000 strokes | | 0.5 | † | cm3/1000 strokes | : 1.0 |
| Check tolerance | • | 0.5 | I | Check tolerance cm3/1000s. | : 4.0 |
| cm3/1000s. | : | 2.2 | 1 | Shutoff solenoid | . 4.0 |
| Shutoff solenoid | | •• | + | Volt | : 12 |
| Volt | : | 12 | † | Datad award awa | |
| | | | | Rated speed rpm Aneroid pressure | : 500 |
| MECHANICAL SHUTOR | ·F | | I | hPa | : 1000 |
| | | | + | Del. quantity | |
| Rated speed rpm | : | 2000 | + | cm3/1000 strokes | : 15.0 |
| Aneroid pressure hPa | • | 1000 | İ | Tolerance cm3/1000 strokes | : 1.0 |
| Del. quantity | • | 1000 | I | Check tolerance | . 1.0 |
| cm3/1000 strokes | : | 1.5 | + | cm3/1000S. | : 4.0 |
| Tolerance | | 4 5 | † | Shutoff solenoid | 40 |
| cm3/1000 strokes Check tolerance | : | 1.5 | 1 | Volt | : 12 |
| cm3/1000s. | : | 1.5 | I | START TRANSITION | |
| Shutoff solenoid | | | + | | |
| Volt | : | 12 | + | Rated speed rpm | : 380 |
| | | | <u> </u> | Del. quantity cm3/1000 strokes | : 35.0 |
| ELECTR. SHUTOFF | | | I | Tolerance | . 55.0 |
| CONTROL LEVER, ID | LE S | STOP | + | cm3/1000 strokes | : 10.0 |
| . | | 400 | + | Shutoff solenoid | 40 |
| Rated speed rpm Del. quantity | : | 400 | Ī | Volt | : 12 |
| cm3/1000 strokes | : | 1.5 | I | | |
| Tolerance | | | + | | |
| cm3/1000 strokes | : | 1.5 | + | ASSEMBLY AND ADJU | STMENT DIMENSIO |
| Check tolerance cm3/1000s. | | 1.5 | İ | Dimension K mm | : 3,3 |
| | • | 1.5 | 1 | Tolerance mm | : +-0,1 |
| CULL-LOAD STOP CO | NTRO | L LEVER | + | Dimension KF mm | : 6,0 |
| | | 400 | + | Tolerance mm | : +-0,2 |
| Rated speed rpm Del. quantity | : | 400 | İ | Dimension MS mm Tolerance mm | : 1,3 : +-0,2 |
| m3/1000 strokes | : | 1.5 | 1 | TO CET ATTEC THAT | . 1 0/2 |
| olerance | | | + | POTENTIOMETER | |
| m3/1000 strokes | : | 1.5 | + | SET | |
| Check tolerance cm3/1000s. | | 1.5 | 1 | 1. measurement | |
| , 60001 / CIII | • | (•) | Į | voltage Volt | : 5,0 |
| | | | + | measurement | · |
| | | | + | voltage Volt | : ARF1=2,0 V |
| | | | † | measurement voltage Volt | • ADEO-1 1 U |
| | | | Ī | voltage volt | : ARF2=1,1 V |
| | | | ľ | | |

MICROSWITCH SET

mm

: ARF1=12,0

: ARF2=12,0

CONTROL LEVER POSITION

SET

Control lever position YA mm

: 25,8..29,8

Control lever

position YB mm

: 36,1..50,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.05.96 Edition : ISO 4113 Test oil

: 0 460 484 078 Part no. Pump designation : VE4/8F2500R611

Customer-spec. information Customer : PSA

: TUD 5-L Motor 42.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

0.55 restriction mm

0.35 Inlet press. bar : Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

2.00 x inside diameter: 450 x length mm :

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,8 Tolerance mm : +-0,02

Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm 5.0 : Tolerance mm 0.2 Shutoff solenoid 12

Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa 6.3 Tolerance hPa : 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

2.0

Rated speed rpm : 1500 Del. quantity

cm3/1000 strokes : 24.0

Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes :

Shutoff solenoid 12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 2.0

Tolerance cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2650

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

| | | , | | | |
|----------------------------------|---------------------|----------|-------------------------------|-------|------------------|
| SET GRADUATED STA | ARTING DELIVERY | Ī | Check tolerance | | |
| CONTROL LEVER, II | | 1 | ccm/10s | : | 41.6 |
| | | + | Shutoff solenoid | | |
| Rated speed rpm | : 200 | + | Volt | : | 12 |
| Del. quantity | 40.0 | + | 5 | | (00 |
| cm3/1000 strokes Tolerance | : 40.0 | † | Rated speed rpm | | 600 |
| cm3/1000 strokes | : 1.0 | Ī | Overflow quantity ccm/10s | • | 63.8 |
| Shutoff solenoid | | I | Tolerance | • | 03.0 |
| Volt | : 12 | 1 | ccm/10s | : | 22.2 |
| | | + | | | |
| | | + | Check tolerance | | |
| | | † | ccm/10s | : | 22.2 |
| TN JECTION-PUMP TE | EST SPECIFICATIONS | Ī | Shutoff solenoid Volt | | 12 |
| INOCCITON FOR TE | ST STECTIFICATIONS | I | VOCC | • | 12 |
| TIMING DEVICE CHA | ARACTERISTIC | + | DELIVERY AND BREA | AKAWA | Y CHARACTERISTIC |
| Rated speed rpm | : 2200 | I | Rated speed rpm | | 2650 |
| Tolerance mm | : 0.4 | 1 | Del. quantity | • | 2000 |
| Check | | + | cm3/1000 strokes | : | 12.0 |
| tolerance mm | : 0.7 | + | Tolerance | | |
| Shutoff solenoid | 42 | + | cm3/1000 strokes | : | 2.0 |
| Volt | : 12 | † | Check tolerance cm3/1000s. | | 4.0 |
| Rated speed rpm | : 800 | I | Shutoff solenoid | • | 4.0 |
| nated opeca i piii | . 555 | 1 | Volt | : | 12 |
| SV travel mm | : 1.6 | + | | | - |
| Tolerance mm | : 0.4 | + | Rated speed rpm | : | 2580 |
| Check | . 0.7 | † | Del. quantity | | 20.0 |
| tolerance mm Shutoff solenoid | : 0.7 | <u>†</u> | cm3/1000 strokes Tolerance | : | 20.0 |
| Volt | : 12 | I | cm3/1000 strokes | • | 3.0 |
| | | + | Check tolerance | • | ••• |
| SUPPLY PUMP PRESS | SURE CHARACTERISTIC | + | cm3/1000s. | : | 5.0 |
| | | + | Shutoff solenoid | | 4.5 |
| Rated speed rpm | : 2200 | † | Volt | : | 12 |
| Supply pomp pressure bar | : 8.1 | Ī | Rated speed rpm | • | 2800 |
| Tolerance hPa | : 0.3 | 1 | Del. quantity | • | 2000 |
| Shutoff solenoid | | 1 | cm3/1000 strokes | : | 1.5 |
| Volt | : 12 | + | Tolerance | | |
| ~ | 000 | + | cm3/1000 strokes | : | 1.5 |
| Rated speed rpm | : 800 | † | Check tolerance cm3/1000s. | | 1.5 |
| Supply pomp pressure bar | : 4.6 | I | Shutoff solenoid | • | ۱.٥ |
| Tolerance hPa | : 0.3 | 1 | Volt | : | 12 |
| Shutoff solenoid | | + | | | |
| Volt | : 12 | + | Rated speed rpm | : | 2450 |
| OVEREL OLL OUANTITY | | † | Del. quantity | | 24.0 |
| OVERFLOW QUANTITY | | Ī | cm3/1000 strokes Tolerance | : | 26.0 |
| Rated speed rpm | : 2450 | I | cm3/1000 strokes | : | 1.0 |
| Overflow quantity | | 1 | Check tolerance | | 110 |
| ccm/10s | : 97.2 | + | cm3/1000s. | : | 2.2 |
| Tolerance | | + | Shutoff solenoid | | 40 |
| ccm/10s | : 41.6 | ‡ | Volt | : | 12 |
| | | + | Rated speed rpm | : | 600 |

| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : 1.5 | † † † † † |
|--|---------------------------------------|--|
| Shutoff solenoid Volt | : 12 | + START TRANSITION |
| Rated speed rpm Del. quantity | : 1500 | + Rated speed rpm : 340 + Del. quantity + cm3/1000 strokes : 22.5 |
| cm3/1000 strokes Tolerance | : 24.0 | Tolerance - cm3/1000 strokes : 10.0 |
| cm3/1000 strokes Check tolerance | | Shutoff solenoid Volt : 12 |
| cm3/1000s. Shutoff solenoid | | ‡ |
| Volt | : 12 | Rated speed rpm : 250 Del. quantity |
| MECHANICAL SHUTOF | ·F | + cm3/1000 strokes : 52.0 + Tolerance + cm3/1000 strokes : 17.0 |
| Rated speed rpm Del. quantity | : 2450 | + Shutoff solenoid + Volt : 12 |
| cm3/1000 strokes Tolerance | : 1.5 | |
| cm3/1000 strokes Check tolerance | | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| cm3/1000s. Shutoff solenoid | : 1.5 : 12 | Dimension K mm : 3,7 Tolerance mm : +-0,1 |
| ELECTR. SHUTOFF CONTROL LEVER, ID | · · · · · · · · · · · · · · · · · · · | + Dimension KF mm : 6,0 + Tolerance mm : +-0,2 + Dimension MS mm : 1,0 + Tolerance mm : +-0,2 |
| Rated speed rpm Del. quantity | : 350 | CONTROL LEVER POSITION |
| cm3/1000 strokes Tolerance | : 1.5 | SET + |
| cm3/1000 strokes Check tolerance | : 1.5 | Control lever |
| cm3/1000s. Spread | : 1.5 | position YA mm : 32,036,0 |
| cm3/1000 strokes | | Control lever position YB mm : 26,035,0 |
| FULL-LOAD STOP CO | 750 | <u> </u> |
| Rated speed rpm Del. quantity cm3/1000 strokes | | End of test-specification sheet |
| Tolerance cm3/1000 strokes | | the of cest specification sheet |
| Spread cm3/1000 strokes | : 5.0 | ‡ |
| Check tolerance cm3/1000s. | : 1.5 | ‡ |
| Spread cm3/1000 strokes | : 5.0 | ‡ |
| | | • |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.12.95 Edition : ISO 4113 Test oil

: 0 460 484 106 Part no. Pump designation : VE4/8F2500R611-3

Customer-spec. information Customer : PSA : TUD5-L4 Motor Power KW : 42.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,75 Tolerance mm : +-0,02

Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm 5.0 Tolerance mm 0.2 : Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa 6.3 Tolerance hPa 0.3

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

24.C

0.5

Rated speed rpm : 1500 Del. quantity

cm3/1000 strokes :

Tolerance

cm3/1000 strokes :

Spread 2.0

cm3/1000 strokes :

Shutoff solenoid Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 2.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2650 Del. quantity

cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

| SET GRADUATED STA | | + | Overflow quantity ccm/10s Tolerance | : | 97.2 |
|--|---------------------|----------|--|------|-------------------|
| Rated speed rpm | : 200 | Ŧ | ccm/10s | : | 41.6 |
| Del. quantity cm3/1000 strokes Tolerance | : 40.0 | Ī | Check tolerance ccm/10s Shutoff solenoid | : | 41.6 |
| cm3/1000 strokes Shutoff solenoid | : 1.0 | Ī | Volt | : | 12 |
| Volt | : 12 | 1 | Rated speed rpm Overflow quantity | | 600 |
| | | + | ccm/10s Tolerance | : | 63.8 |
| INJECTION-PUMP TE | EST SPECIFICATIONS | ‡ | ccm/10s | : | 22.2 |
| TIMING DEVICE CHA | ARACTERISTIC | ‡ | Check tolerance ccm/10s Shutoff solenoid | : | 22.2 |
| Rated speed rpm | : 2200 | 1 | Volt | : | 12 |
| Tolerance mm Check | | ‡ | | \KAW | AY CHARACTERISTIC |
| tolerance mm | : 0.7 | + | Data dana dana | | 27.50 |
| Shutoff solenoid Volt | : 12 | Ī | Rated speed rpm Del. quantity cm3/1000 strokes | | |
| Rated speed rpm | : 800 | + | Tolerance cm3/1000 strokes | | 2.0 |
| SV travel mm | : 1.6 | + | Check tolerance | Ť | - |
| Tolerance mm Check | : 0.4 | İ | cm3/1000S. Shutoff solenoid | : | 4.0 |
| tolerance mm Shutoff solenoid | : 0.7 | 1 | Volt | : | 12 |
| Volt | : 12 | + | Rated speed rpm Del. quantity | : | 2580 |
| Rated speed rpm | : 2450 | + | cm3/1000 strokes Tolerance | : | 20.0 |
| SV travel mm Tolerance mm | : 9.8 : 0.3 | + | cm3/1000 strokes Check tolerance | : | 3.0 |
| SUPPLY PUMP PRESS | CURE CHARACTERISTIC | ‡ | cm3/1000S. Shutoff solenoid | : | 5.0 |
| Rated speed rpm | : 2200 | ‡ | Volt | : | 12 |
| Supply pomp pressure bar | : 8.1 | Ī | Rated speed rpm Del. quantity | : | 2800 |
| Tolerance hPa Shutoff solenoid | : 0.3 | <u> </u> | cm3/1000 strokes Tolerance | : | 1.5 |
| Volt | : 12 | + | cm3/1000 strokes Check tolerance | : | 1.5 |
| Rated speed rpm Supply pomp | : 800 | + | cm3/1000S. Shutoff solenoid | : | 1.5 |
| pressure bar Tolerance hPa | : 4.6 : 0.3 | + | Volt | : | 12 |
| Shutoff solenoid Volt | : 12 | ‡ | Rated speed rpm Del. quantity | : | 2450 |
| OVERFLOW QUANTITY | | ‡ | cm3/1000 strokes Tolerance | : | 25.5 |
| | | + | cm3/1000 strokes | : | 1.0 |
| Rated speed rpm | : 2450 | Ţ | Check tolerance cm3/1000s. | : | 2.2 |

| + | |
|--|----------------|
| Rated speed rpm : 600 + EXHAUST-GAS RECIRCULA | TION |
| cm3/1000 strokes : 25.5 Tolerance Rated speed rpm : | 1250 |
| cm3/1000 strokes : 1.5 | 15.0 |
| cm3/1000s. : 3.0 + Tolerance Shutoff solenoid + cm3/1000 strokes : | 1.0 |
| Volt : 12 | 4.0 |
| Rated speed rpm : 1500 + Shutoff solenoid Del. quantity + Volt : cm3/1000 strokes : 24.0 + | 12 |
| cm3/1000 strokes : 24.0 + START TRANSITION cm3/1000 strokes : 0.5 + Constant transition cm3/1000 strokes : 0.5 | |
| Check tolerance + Rated speed rpm : cm3/1000s. : 2.2 + Del. quantity | 340 |
| Shutoff solenoid cm3/1000 strokes : Volt : 12 Tolerance | 22.5 |
| cm3/1000 strokes : Shutoff solenoid | 10.0 |
| MECHANICAL SHUTOFF Volt : | 12 |
| Rated speed rpm : 2450 + Rated speed rpm : | 250 |
| cm3/1000 strokes : 1.5 + Del. quantity Tolerance + cm3/1000 strokes : | 52.0 |
| cm3/1000 strokes : 1.5 + Tolerance Check tolerance + cm3/1000 strokes : | 17.0 |
| cm3/1000s. : 1.5 + Shutoff solenoid + Volt : | 12 |
| Volt : 12 | UT DIMENOTONIO |
| ELECTR. SHUTOFF CONTROL LEVER, IDLE STOP ASSEMBLY AND ADJUSTMEN Dimension K mm : 3, | |
| 1 | -0,1 |
| | -0,2 |
| Del. quantity + Tolerance mm : + | 7.3 |
| Del. quantity + Tolerance mm : + cm3/1000 strokes : 1.5 + Dimension MS mm : 1, Tolerance + Tolerance mm : + | -0,2 -0,2 |
| Del. quantity | |
| Del. quantity | |
| Del. quantity cm3/1000 strokes: 1.5 Tolerance cm3/1000 strokes: 1.5 Check tolerance cm3/1000s.: 1.5 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 350 | -0,2 |
| Del. quantity cm3/1000 strokes: 1.5 Tolerance cm3/1000 strokes: 1.5 Check tolerance cm3/1000s: 1.5 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 350 Del. quantity cm3/1000 strokes: 1.5 End of test-specificat | -0,2 |
| Del. quantity cm3/1000 strokes: 1.5 Tolerance cm3/1000 strokes: 1.5 Check tolerance cm3/1000s.: 1.5 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 350 Del. quantity Tolerance mm: + Toleran | -0,2 |

| BOSCH INJ. PUMP T | ES. | r | SPEC | IFIC | ATIONS | |
|---|-----|--------|--------------|-------------|-----------------|--|
| Note remarks | | | | | | |
| Refer to Service adjustment instru See microcard(s) | ct. | io | ns. | tes | t and | |
| Edition Test oil | | | 0.11 so 4 | | | |
| Part no. Pump designation | : | 0 V | 460 E4/1 | 414 1F20 | . 119 00R624 | |
| Customer-spec. in Customer Motor Power KW | : | F | ORD .5L | | | |
| TEST BENCH REQUIR | EME | EN' | TS | | | |
| Calibrating-oil return temperature °C Tolerance °C | : | | 4 | 5 1 | | |
| Overflow restriction mm | : | | 0 | .75 | | |
| Inlet press. bar Tolerance bar | : | | 0.35 | 5 | | |
| Test nozzle holde assembly | : | 1 | 688 | 901 | 114 | |
| Opening pressure bar Tolerance bar | : | | 207 | | | |
| Test lines | : | 1 | 680 | 750 | 073 | |
| Outside diameter | : | | 6.00 |) | | |
| x inside diameter x length mm | : | | 2.00 450 | | | |
| REMARKS | | | | | | |

| Plunger stroke mm Tolerance mm Outlet | |
|--|------------------------|
| INJECTION PUMP SE | TTING VALUES |
| TIMING DEVICE TRA | VEL |
| Rated speed rpm | : 1250 |
| Setting mm Tolerance mm Shutoff solenoid Volt | : 2.7 : 0.1 : 12 |
| SUPPLY PUMP PRESS | CURE |
| Rated speed rpm | : 1250 |
| Setting hPa Tolerance hPa Shutoff solenoid Volt | : 7.2 : 0.3 : 12 |
| FULL-LOAD DELIV. | WITHOUT BOOST PRESSURE |
| Del. quantity cm3/1000 strokes Del. quantity | |
| cm3/1000 strokes Tolerance | |
| cm3/1000 strokes Tolerance | |
| cm3/1000 strokes Spread | : 0.2 |
| cm3/1000 strokes Shutoff solenoid | : 3.0 |
| Volt Shutoff solenoid | : 12 |
| Volt Check tolerance | : 12 |
| cm3/1000s. | : 4.0 |
| IDLE SETTING | |
| Rated speed rpm Del. quantity cm3/1000 strokes | : 425 : 9.0 |
| Tolerance | |
| cm3/1000 strokes Shutoff solenoid Volt | : 1.0 : 12 |
| Spread cm3/1000 strokes | : 3.0 |
| Check tolerance cm3/1000s. | : 4.0 |

BEGINNING OF DELIVERY

Start of delivery blocking

| FULL-LOAD SPEED REGULATION Rated speed rpm : 2200 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : 1.0 Shutoff solenoid Volt : 12 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity ccm/10s cm3/1000 strokes : 45.0 Tolerance cm3/1000 strokes : 45.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 OVERFLOW QUANTITY Rated speed rpm : 500 Overflow quantity ccm/10s : 119.4 Tolerance ccm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 100 Check tolerance ccm/10s : 22.2 Tolerance ccm/10s : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 150.0 Tolerance ccm/10s : 34.7 TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Tolerance mm : 0.4 Check Check Tolerance mm : 0.4 Check tolerance ccm/10s : 34.7 Shutoff solenoid Volt : 12 Check tolerance ccm/10s : 34.7 Shutoff solenoid Volt : 12 | | | + Shutoff solenoid |
|--|-------------------|---------------------------------------|---------------------------------------|
| Rated speed rpm : 2200 Supply pomp pressure bar : 6.7 Grant cannot be a construction of the construc | | | |
| Rated speed rpm 2200 Policy pomp Pol | FULL-LOAD SPEED F | REGULATION | + Rated speed rom · 1000 |
| cm3/1000 strokes : 23.0 Tolerance hPa : 0.3 Tolerance cm3/1000 strokes : 1.0 Shutoff solenoid volt : 12 Volt of solenoid volt : 12 OVERFLOW QUANTITY STARTING FUEL DELIVERY Rated speed rpm : 5CO Overflow quantity cm3/1000 strokes : 45.0 Overflow quantity cm3/1000 strokes : 119.4 Rated speed rpm : 100 Ccm/10s : 119.4 Tolerance cm/10s : 22.2 Com3/1000 strokes : 45.0 Check tolerance cm/10s : 22.2 Shutoff solenoid volt : 12 Shutoff solenoid volt : 12 INJECTION-PUMP TEST SPECIFICATIONS Tolerance cm/10s : 34.7 TIMING DEVICE CHARACTERISTIC Check tolerance cm/10s : 34.7 Rated speed rpm : 2000 Tolerance mm : 0.4 Check tolerance cm/10s : 34.7 Check tolerance mm : 0.9 Shutoff solenoid volt : 12 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 23.0 Tolerance mm : 2200 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance cm3/1000 strokes : 1.0 Check tolerance mm : 0.4 Check tolerance cm3/1000 strokes : 23.0 Suprly Pump PRESSURE CHARACTERISTIC Rated speed rpm : 2140 Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance cm3/1000 strokes : 29.5 Tolerance pm3/1000 strokes : 3.0 Check tolera | | : 2200 | + Supply pomp |
| Tolerance | Del. quantity | 27.0 | |
| cm3/1000 strokes : 1.0 1.0 Volt : 12 Shutoff solenoid Volt : 12 0VERFLOW QUANTITY STARTING FUEL DELIVERY Rated speed rpm : 500 Overflow quantity cm3/1000 strokes : 45.0 Tolerance cm3/1000 strokes : 20.0 Cm10s : 22.2 Tolerance cm3/1000 strokes : 20.0 Check tolerance cm/10s : 22.2 Shutoff solenoid Volt : 12 Cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s quantity cm/10s : 150.0 Cm/10s : 34.7 TIMISCTION-PUMP TEST SPECIFICATIONS Tolerance cm/10s : 34.7 TIMING DEVICE CHARACTERISTIC Check tolerance cm/10s : 34.7 Rated speed rpm : 2000 Tolerance mm : 0.4 Check tolerance cm/10s : 34.7 TOLERANCE mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1000 Doll tolerance mm : 0.9 DELIVERY AND BREAKAWAY CHARACTERISTIC CM/10s strokes : 23.0 Rote speed rpm : 1000 Doll tolerance mm : 0.4 Check tolerance cm/3/1000 strokes : 1.0 Cherance cm/3/1000 strokes : 1.0 Cherance cm/3/1000 strokes : 1.0 Cherance cm/3/1000 strokes : 1.0 Cherance cm/3/1000 strokes : 29.5 Supply Pump PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Rated speed rpm : 2140 Del. quantity cm/3/1000 strokes : 29.5 Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Check tolerance cm/3/1000 strokes : 3.0 Check tolerance cm/3/1000 strokes : 3.0 Check tolerance cm/3/10000 strokes : 29.5 <td></td> <td>: 23.0</td> <td></td> | | : 23.0 | |
| Shutoff solenoid | | : 1.0 | |
| Rated speed rpm : 500 Overflow quantity Com/10s 119.4 Del. quantity Com/10s 119.4 Del. quantity Com/10s 12.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 22.2 Com/10s 23.4 Com/10s C | Shutoff solenoid | | + |
| Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 45.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Check tolerance ccm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 1950 Overflow quantity cm/10s : 22.2 Rated speed rpm : 2200 Del. quantity cm/10s : 12 Rated speed rpm : 2200 Del. quantity cm/10s : 34.7 Tolerance cm/10s : 22.2 Rated speed rpm : 2200 Del. quantity cm/10s : 12 Rated speed rpm : 2140 Del. quantity cm/1000 strokes : 29.5 Tolerance prom : 2140 Del. quantity cm/1000 strokes : 3.0 Check tolerance cm/10s : 12 Rated speed rpm : 2000 Check tolerance cm/10s : 12 Rated speed rpm : 2000 Check tolerance cm/1000 strokes : 29.5 Tolerance prom : 2000 Check tolerance cm/1000 strokes : 29.5 Tolerance prom : 2000 Check tolerance cm/1000 strokes : 29.5 Tolerance prom : 2000 Check tolerance cm/1000 | Volt | : 12 | OVERFLOW QUANTITY |
| Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 45.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 22.2 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 34.7 TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Tolerance mm : 0.4 Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Strokes : 23.0 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance mm : 0.4 Check tolerance Cm/10s : 34.7 Tolerance pm : 2000 Tolerance pm : 2000 Del. quantity cm3/1000 strokes : 23.0 SV travel mm : 1.7 Tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 Del. quantity Cm3/1000 strokes : 29.5 Tolerance Cm/10s | STARTING FUEL DEL | LIVERY | · · · · · · · · · · · · · · · · · · · |
| Del. quantity cm3/1000 strokes : 45.0 | Pated speed spm | . 100 | |
| Cm3/1000 strokes : 45.0 Ccm/10s : 22.2 | | . 100 | |
| CM3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1950 Overflow quantity ccm/10s : 34.7 INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Tolerance mm : 0.4 Check Check Check Volt : 12 Rated speed rpm : 2000 Tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 23.0 Tolerance mm : 0.4 Check Check Check Volt : 12 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 1.0 Check Tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Del. quantity Cm3/1000 strokes : 23.0 Tolerance Check Tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp Deressure bar : 8.9 Tolerance Cm3/1000 strokes : 29.5 Tolerance Cm3/1000 strokes : 29.5 Tolerance Cm3/1000 strokes : 29.5 Tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 29.5 Tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 29.5 Tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm/10s Check tolerance Cm/10s Check tolerance Cm/10s Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm/10s Ch | cm3/1000 strokes | : 45.0 | |
| Shutoff solenoid | | 20.0 | |
| Shutoff solenoid | | : 20.0 | |
| Volt | | : 12 | |
| INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Check tolerance ccm/10s : 34.7 Check tolerance ccm/10s : 34.7 Check tolerance ccm/10s : 34.7 Check tolerance ccm/10s : 34.7 Shutoff solenoid Check tolerance mm : 0.4 Tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1000 Rated speed rpm : 1000 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance cm/10s : 34.7 Shutoff solenoid Volt : 12 Rated speed rpm : 2200 Del. quantity cm/3/1000 strokes : 23.0 Tolerance tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance rm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 stroke | | · - | |
| INJECTION-PUMP TEST SPECIFICATIONS TIMING DEVICE CHARACTERISTIC Rated speed rpm : 2000 Check tolerance ccm/10s : 34.7 Check tolerance ccm/10s : 34.7 Check tolerance ccm/10s : 34.7 Check tolerance ccm/10s : 34.7 Shutoff solenoid Check tolerance mm : 0.4 Tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1000 Rated speed rpm : 1000 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance cm/10s : 34.7 Shutoff solenoid Volt : 12 Rated speed rpm : 2200 Del. quantity cm/3/1000 strokes : 23.0 Tolerance tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance rm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/10s Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes : 29.5 Tolerance cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 strokes cm/3/1000 stroke | | | + Rated speed rrm : 1050 |
| Ccm/10s | | | |
| Ccm/10s : 34.7 | | · · · · · · · · · · · · · · · · · · · | — + ccm/10s : 150.0 |
| TIMING DEVICE CHARACTERISTIC Check tolerance Cm/10s : 34.7 | INJECTION-PUMP TE | ST SPECIFICATIONS | |
| Rated speed rpm : 2000 Tolerance mm : 0.4 Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1000 Rated speed rpm : 1000 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance mm : 0.4 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Supply pomp Pressure bar : 500 Supply pomp Pressure bar : 500 Supply pomp Pressure bar : 500 Supply pomp Pressure bar : 500 Supply pomp Pressure bar : 500 Supply pomp Pressure bar : 5.5 Rated speed rpm : 2400 Pel. quantity Cm3/1000 strokes : 29.5 Tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Check tolerance Cm3/1000 strokes : 3.0 Check tolerance Check toleran | TIMING DEVICE CHA | ARACTERISTIC | 7 (1111/105 . 34.7 |
| Tolerance mm : 0.4 Check | | | |
| Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1000 | | | |
| tolerance mm : 0.9 Shutoff solenoid Volt : 12 Rated speed rpm : 1000 | | . 0.4 | |
| Rated speed rpm : 1000 | tolerance mm | : 0.9 | + |
| Rated speed rpm : 1000 Rated speed rpm : 1000 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : 1.0 Check tolerance cm3/1000s. : 5.0 Shutoff solenoid Volt : 12 Rated speed rpm : 2140 Del. quantity cm3/1000 strokes : 29.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 6.0 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Supply pomp pressure bar : 550 Rated speed rpm : 2400 Del. quantity Rated speed rpm : 2400 Del. quantity | | . 43 | DELIVERY AND BREAKAWAY CHARACTERISTIC |
| Rated speed rpm : 1000 SV travel mm : 1.7 Tolerance mm : 0.4 Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Supply pomp pressure bar : 5.5 Rated speed rpm : 2400 Del. quantity | volt | : 12 | Rated speed rom : 2200 |
| SV travel mm | Rated speed rpm | : 1000 | + Del. quantity |
| Tolerance mm : 0.4 Check tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Shutoff solenoid Volt : 12 Rated speed rpm : 2000 Check tolerance cm3/1000 strokes : 29.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 Patential pressure bar : 1.0 Rated speed rpm : 2140 Del. quantity Rated speed rpm : 2400 Del. quantity | • | | + cm3/1000 strokes : 23.0 |
| Check tolerance tolerance mm : 0.9 | | | |
| tolerance mm : 0.9 Shutoff solenoid Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 Rated speed rpm : 500 Supply pomp pressure bar : 5.5 Rated speed rpm : 2400 Pel. quantity Cm3/1000s. : 3.0 Check tolerance Cm3/1000s. : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Supply pomp pressure bar : 5.5 | | . 0.4 | |
| Volt : 12 SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2140 Pal. quantity Cm3/1000 strokes : 29.5 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Supply pomp pressure bar : 5.5 Rated speed rpm : 2400 Pal. quantity Rated speed rpm : 2400 Rated speed rpm : 2400 Pal. quantity | tolerance mm | : 0.9 | + cm3/1000s. : 5.0 |
| SUPPLY PUMP PRESSURE CHARACTERISTIC Rated speed rpm : 2000 Rated speed rpm : 2000 Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 2140 Del. quantity cm3/1000 strokes : 29.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 pressure bar : 5.5 Rated speed rpm : 2400 Del. quantity | | . 10 | |
| Rated speed rpm : 2000 | νοιτ | : 12 | † volt : 12 |
| Rated speed rpm : 2000 | SUPPLY PUMP PRESS | URE CHARACTERISTIC | |
| Supply pomp pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Supply pomp pressure bar : 5.5 Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000S. : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 pressure bar : 5.5 | Dated anned non | . 2000 | |
| pressure bar : 8.9 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 Rated speed rpm : 500 Supply pomp pressure bar : 5.5 Cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 6.0 Shutoff solenoid Volt : 12 Rated speed rpm : 2400 pressure bar : 5.5 | | . 2000 | |
| Shutoff solenoid Volt : 12 | | | - cm3/1000 strokes : 3.0 |
| Volt : 12 | | : 0.3 | |
| Rated speed rpm : 500 Supply pomp | | . 12 | |
| Supply pomp + Rated speed rpm : 2400 pressure bar : 5.5 + Del. quantity | VOCC | | |
| pressure bar : 5.5 + Del. quantity | | : 500 | Detail considering 2/20 |
| | | . 55 | |
| + | | | |
| | | | + |

| Tolerance | | | + Rated speed rpm | : | 425 | |
|--|---------------------------------|--|---|--------------------------------------|---|--|
| cm3/1000 strokes | • | 2.5 | + Del. quantity | • | ,,, | |
| Check tolerance | • | , | + cm3/1000 stroke | | 1.5 | |
| cm3/1000s. | • | 2.5 | + Tolerance | | 1.5 | |
| Shutoff solenoid | • | 2.5 | + cm3/1000 stroke | | 1.5 | |
| Volt | | 12 | | · > . | 1.0 | |
| volt | • | 12 | + Spread | | F 0 | |
| | | | + cm3/1000 stroke | | 5.0 | |
| Aneroid pressure | | | + Check tolerance | | | |
| hPa | : | | + cm3/1000s. | : | 1.5 | |
| | | | + Spread | | | |
| LDA/ | | | + cm3/1000 stroke | s: | 5.0 | |
| HBA stroke mm | : | 7.7 | + | | | |
| | | | → IDLE DELIVERY | | | |
| Rated speed rpm | : | 1950 | 1 | | | |
| Del. quantity | • | ,,,,, | Rated speed rpm | : | 500 | |
| cm3/1000 strokes | | 37.0 | Del. quantity | • | 200 | |
| Tolerance | • | 57.0 | cm3/1000 stroke | | 3.0 | |
| | | 1.2 | \ | S : | 3.0 | |
| | : | 1.2 | † Tolerance | | 7.0 | |
| Check tolerance | | 2.5 | + cm3/1000 stroke | | 3.0 | |
| cm3/1000s. | : | 2.5 | + Check tolerance | | | |
| Shutoff solenoid | | | + cm3/1000s. | : | 3.0 | |
| Volt | : | 12 | + Shutoff solenoi | d | | |
| | | | + Volt | : | 12 | |
| Rated speed rpm | : | 1700 | + | | | |
| Del. quantity | | | + | | | |
| cm3/1000 strokes | : | 38.0 | 1 | | | |
| Tolerance | - | | 1 | | | |
| cm3/1000 strokes | • | 1.2 | 1 | | | |
| Check tolerance | • | 1.6 | <u> </u> | | | |
| CHECK LOCE AIRE | | | T | | - | |
| | | 2 5 | I EVUALICE CAR DEC | TDCHL | ATTONI | |
| cm3/1000s. | : | 2.5 | + EXHAUST-GAS REC | IRCUL | ATION | |
| cm3/1000S. Shutoff solenoid | : | | | | | |
| cm3/1000s. | : | 2.5 12 | + Rated speed rpm | | ATION 1250 | |
| cm3/1000S. Shutoff solenoid Volt | : | 12 | Rated speed rpm Del. quantity | : | 1250 | |
| cm3/1000S. Shutoff solenoid Volt Rated speed rpm | • | | Rated speed rpm Del. quantity cm3/1000 stroke | : | | |
| cm3/1000S. Shutoff solenoid Volt Rated speed rpm Del. quantity | - | 12 500 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance | : s : | 1250 21.3 | |
| cm3/1000S. Shutoff solenoid Volt Rated speed rpm | - | 12 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke | : s : | 1250 | |
| cm3/1000S. Shutoff solenoid Volt Rated speed rpm Del. quantity | - | 12 500 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance | : s : | 1250 21.3 | |
| cm3/1000S. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes | : | 12 500 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke | : s : | 1250 21.3 0.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 12 500 25.5 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. | : s : s : | 1250 21.3 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 12 500 25.5 0.2 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi | : s : s : | 1250 21.3 0.5 2.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 12 500 25.5 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. | : s : s : | 1250 21.3 0.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 12 500 25.5 0.2 3.0 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi | : s : s : | 1250 21.3 0.5 2.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 12 500 25.5 0.2 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi | : s : s : | 1250 21.3 0.5 2.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 12 500 25.5 0.2 3.0 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt | : s : s : | 1250 21.3 0.5 2.5 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 12 500 25.5 0.2 3.0 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt Rated speed rpm | : s : s : | 1250 21.3 0.5 2.5 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 12 500 25.5 0.2 3.0 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt Rated speed rpm Del. quantity | : s : s : d : | 1250 21.3 0.5 2.5 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF | : : | 12 500 25.5 0.2 3.0 12 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke | : s : s : d : | 1250 21.3 0.5 2.5 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : : | 12 500 25.5 0.2 3.0 12 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance | : s : s : d : N : | 1250 21.3 0.5 2.5 12 480 26.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : | 12 500 25.5 0.2 3.0 12 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke | : s : s : d : N : s : | 1250 21.3 0.5 2.5 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF | : : | 12 500 25.5 0.2 3.0 12 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi | : s : s : d : N : s : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : : | 12 500 25.5 0.2 3.0 12 TOP 425 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke | : s : s : d : N : s : | 1250 21.3 0.5 2.5 12 480 26.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : : : : : : | 12 500 25.5 0.2 3.0 12 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi | : s : s : d : N : s : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity | : : : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi | : s : s : d : N : s : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 1.5 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt | : s : s : d : v : s : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Rated speed rpm | : s : s : d : v : s : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 1.5 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity | : s : d : v : s : d : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 1.5 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity cm3/1000 stroke Shutoff solenoi Volt | : s : d : v : s : d : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 1.5 1.5 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000s. Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity cm3/1000 stroke Tolerance | : s : d : s : s : | 1250 21.3 0.5 2.5 12 480 26.0 6.0 12 300 48.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 1.5 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000s. Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Tolerance cm3/1000 stroke Tolerance cm3/1000 stroke | | 1250 21.3 0.5 2.5 12 480 26.0 6.0 12 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 1.5 1.5 5.0 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000s. Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity cm3/1000 stroke Shutoff solenoi Stroke Tolerance cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Shutoff solenoi | | 1250 21.3 0.5 2.5 12 480 26.0 6.0 12 300 48.0 15.0 | |
| cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : : | 12 500 25.5 0.2 3.0 12 TOP 425 1.5 1.5 5.0 | Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000s. Check tolerance cm3/1000s. Shutoff solenoi Volt START TRANSITIO Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Shutoff solenoi Volt Rated speed rpm Del. quantity cm3/1000 stroke Tolerance cm3/1000 stroke Tolerance cm3/1000 stroke Tolerance cm3/1000 stroke | | 1250 21.3 0.5 2.5 12 480 26.0 6.0 12 300 48.0 | |

LDA/

HBA stroke mm : 7.7

Dimension K mm : 2,8
Tolerance mm : +-0,1
Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 1,8
Tolerance mm : +-0,2

MICROSWITCH SET

: ARF 20

CONTROL LEVER POSITION SET

Control lever

position YA mm : 42,8..45,8

Control lever

position YB mm : 59,5..71,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.06.96 Test oil : ISO 4113

Part no. : 0 460 414 123 Pump designation : VE4/11F2000R624-1

Customer-spec. information
Customer : FORD
Motor : 2.5L-DI
Power KW : 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 114

Opening pressure

bar : 207 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 2.7 Tolerance mm : 0.1 Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 7.4
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

4.0

Rated speed rpm 1150 Rated speed rpm 500 Del. quantity cm3/1000 strokes : 36.0 Del. quantity cm3/1000 strokes : 28.5 Tolerance cm3/1000 strokes : 0.5 Tolerance cm3/1000 strokes : 0.2 Spread cm3/1000 strokes : 3.0 Shutoff solenoid Volt 12 Shutoff solenoid Volt 12 Check tolerance

IDLE SETTING

cm3/1000s.

Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 10.5 Tolerance cm3/1000 strokes : 1.0 Shutoff solenoid Volt 12 Spread cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 4.0 :

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2200 Del. quantity

cm3/1000 strokes : 26.0

| Tolerance cm3/1000 strokes Shutoff solenoid Volt STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | : IVERY : : | 1.0 12 100 45.0 20.0 | +++++++++++++ | Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt | : | 12 500 119.4 22.2 22.2 |
|---|----------------------|----------------------------------|------------------|---|------|------------------------------------|
| | | | ‡ | Overflow quantity | : | 1950 |
| INJECTION-PUMP TE | ST SPE | CIFICATIONS | _ | ccm/10s Tolerance | : | 150.0 |
| TIMING DEVICE CHA | | | + | ccm/10s | : | 34.7 |
| Rated speed rpm Tolerance mm | _ | 000 | Ī | Check tolerance ccm/10s Shutoff solenoid | : | 34.7 |
| Check | • | | + | Volt | : | 12 |
| tolerance mm Shutoff solenoid | : | 0.9 | ‡ | DELIVERY AND BREA | KAWA | Y CHARACTERISTIC |
| Volt | : | 12 | + | | | |
| Rated speed rpm | : 10 | 000 | Ŧ | Rated speed rpm Del. quantity cm3/1000 strokes | : | 2200 |
| SV travel mm | : | 1.5 | Ţ | Tolerance | • | 20.0 |
| Tolerance mm Check | : | 0.4 | | cm3/1000 strokes Check tolerance | : | 1.0 |
| tolerance mm Shutoff solenoid | : | 0.9 | 1 | cm3/1000S. Shutoff solenoid | : | 5.0 |
| Volt | : | 12 | $\frac{1}{1}$ | Volt | : | 12 |
| SUPPLY PUMP PRESS | URE CHA | ARACTERISTIC | <u> </u> | Rated speed rpm Del. quantity | : | 2300 |
| Rated speed rpm Supply pomp | : 20 | 000 | ‡ | cm3/1000 strokes Check tolerance | : | 12.0 |
| pressure bar | : | 9.0 0.3 | + | cm3/1000s. Shutoff solenoid | : | 6.0 |
| Tolerance hPa Shutoff solenoid | • | | Ŧ | Volt | : | 12 |
| Volt | : | 12 | ‡ | Rated speed rpm | : | 2400 |
| Rated speed rpm Supply pomp | : 5 | 500 | ‡ | Del. quantity cm3/1000 strokes | : | 2.5 |
| pressure bar Tolerance hPa | : | 5.7 0.3 | † | Tolerance cm3/1000 strokes | : | 2.5 |
| Shutoff solenoid Volt | · : | 12 | 1 | Check tolerance cm3/1000s. | : | 2.5 |
| | | | + | Shutoff solenoid | • | |
| Rated speed rpm Supply pomp | : 11 | 50 | ‡ | Volt | • | 12 |
| pressure bar Tolerance hPa | : | 7.2 0.3 | ‡ | | | |
| | - | | + | | | |

| Aneroid pressure | : | + Check tolerance + cm3/1000s. : 1.5 |
|-----------------------------------|-------------|---|
| LDA/ | | - Spread - cm3/1000 strokes : 5.0 |
| HBA stroke mm | : 7.2 | IDLE DELIVERY |
| Rated speed rpm Del. quantity | : 1950 | Rated speed rpm : 500 |
| cm3/1000 strokes Tolerance | : 41.5 | + Del. quantity |
| cm3/1000 strokes | : 1.2 | † Tolerance |
| Check tolerance cm3/1000s. | : 2.5 | - cm3/1000 strokes : 3.0 Check tolerance |
| Shutoff solenoid Volt | : 12 | + cm3/1000s. : 3.0 + Shutoff solenoid |
| Rated speed rpm | : 1700 | + Volt : 12 |
| Del. quantity cm3/1000 strokes | : 40.0 | ‡ |
| Tolerance cm3/1000 strokes | : 1.2 | † |
| Check tolerance cm3/1000s. | : 2.5 | EXHAUST-GAS RECIRCULATION |
| Shutoff solenoid Volt | : 12 | Rated speed rpm : 1250 |
| Rated speed rpm | : 500 | + Del. quantity + cm3/1000 strokes : 22.5 |
| Del. quantity cm3/1000 strokes | : 28.5 | + Tolerance + cm3/1000 strokes : 0.5 |
| Tolerance cm3/1000 strokes | : 0.2 | + Check tolerance + cm3/1000s. : 2.5 |
| Check tolerance cm3/1000s. | : 3.0 | + Shutoff solenoid + Volt : 12 |
| Shutoff solenoid Volt | : 12 | + START TRANSITION |
| | | + Rated speed rpm : 480 |
| ELECTR. SHUTOFF | | Del. quantity + cm3/1000 strokes : 26.0 |
| CONTROL LEVER, ID | LE STOP | Tolerance cm3/1000 strokes : 6.0 |
| Rated speed rpm Del. quantity | : 425 | Shutoff solenoid Volt : 12 |
| cm3/1000 strokes Tolerance | : 1.5 | 1 |
| cm3/1000 strokes | : 1.5 | Rated speed rpm : 300 |
| Check tolerance cm3/1000s. | : 1.5 | + Del. quantity + cm3/1000 strokes : 48.0 |
| Spread cm3/1000 strokes | : 5.0 | Tolerance : 15.0 |
| FULL-LOAD STOP CO | NTROL LEVER | + Shutoff solenoid + Volt : 12 |
| Rated speed rpm | : 425 | |
| Del. quantity cm3/1000 strokes | : 1.5 | + ASSEMBLY AND ADJUSTMENT DIMENSIONS + |
| Tolerance cm3/1000 strokes | : 1.5 | LDA/ |
| Spread cm3/1000 strokes | : 5.0 | + HBA stroke mm : 7.2 + Dimension K mm : 2,8 |
| | | |

Tolerance mm : +-0,1
Dimension KF mm : 8,4
Tolerance mm : +-0,2
Dimension MS mm : 1,8
Tolerance mm : +-0,2

MICROSWITCH SET

: ARF 20,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 41,0..43,5

Control lever

position YB mm : 63,0..75,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.11.95 Test oil : ISO 4113

Part no. : 0 460 414 138 Pump designation: VE4/11F2000R624-2

Customer-spec. information : FORD Customer : 2.5L DI Motor Power KW 56.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.75 restriction mm

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

207 bar Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

2.00 x inside diameter : x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,52 Tolerance mm : +-0,05 Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 2.7 Tolerance mm 0.1 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

1250 Rated speed rpm :

Setting hPa Tolerance hPa 0.3 : Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 34.0 Del. quantity cm3/1000 strokes : 25.5 Tolerance cm3/1000 strokes : 0.5

Tolerance cm3/1000 strokes : 0.2

Spread

cm3/1000 strokes : 3.0 Shutoff solenoid

Volt 12 Shutoff solenoid Volt 12

Check tolerance cm3/1000s.

IDLE SETTING

425 Rated speed rpm Del. quantity cm3/1000 strokes : 9.0

Tolerance

cm3/1000 strokes : 1.0 Shutoff solenoid Volt

Spread

cm3/1000 strokes : Check tolerance

cm3/1000s.

3.0 4.0

12

4.0

| ated speed rpm : 2200 el. quantity m3/1000 strokes : 23.0 olerance m3/1000 strokes : 1.0 hutoff solenoid olt : 12 TARTING FUEL DELIVERY ated speed rpm : 100 el. quantity m3/1000 strokes : 45.0 olerance m3/1000 strokes : 45.0 olerance m3/1000 strokes : 20.0 hutoff solenoid olt : 12 NJECTION-PUMP TEST SPECIFIC IMING DEVICE CHARACTERISTIC ated speed rpm : 2000 olerance mm : 0.4 heck olerance mm : 0.9 hutoff solenoid olt : 12 Ated speed rpm : 1000 / travel mm : 1.7 olerance mm : 0.4 heck olerance mm : 0.9 hutoff solenoid olt : 12 | ATIONS | | Rated spee Supply pom pressure b Tolerance Shutoff so Volt OVERFLOW G Rated spee Overflow G ccm/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow G ccm/10s Tolerance Tolerance Com/10s Tolerance | np par : hPa : blenoid : QUANTITY ed rpm : quantity : rance : lenoid : d rpm : | 1000 6. 0. 1 500 119. 22. 22. |
|---|------------------|---------------------------------|--|--|--|
| ced speed rpm : 2200 quantity 3/1000 strokes : 23.0erance 3/1000 strokes : 1.0doff solenoidt : 12ARTING FUEL DELIVERYeed speed rpm : 100quantity 3/1000 strokes : 45.0erancedoff solenoidt : 12 ECTION—PUMP TEST SPECIFIC ING DEVICE CHARACTERISTIC ed speed rpm : 2000 erance mm : 0.4 ced speed rpm : 0.9 toff solenoid | ATIONS | | Supply pompressure by Tolerance Shutoff so Volt OVERFLOW GOOD Rated speed Overflow Good Com/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated speed Overflow Good Com/10s Rated speed Overflow Good Com/10s | np par : hPa : blenoid : QUANTITY ed rpm : quantity : rance : lenoid : d rpm : | 6. 0. 1 500 119. 22. 22. |
| el. quantity m3/1000 strokes : 23.0 olerance m3/1000 strokes : 1.0 hutoff solenoid olt : 12 TARTING FUEL DELIVERY eted speed rpm : 100 el. quantity m3/1000 strokes : 45.0 olerance m3/1000 strokes : 20.0 hutoff solenoid olt : 12 NJECTION-PUMP TEST SPECIFIC IMING DEVICE CHARACTERISTIC eted speed rpm : 2000 olerance mm : 0.4 heck olerance mm : 0.9 hutoff solenoid olt : 12 Ated speed rpm : 1000 // travel mm : 1.7 olerance mm : 0.4 heck olerance mm : 0.4 heck olerance mm : 0.9 | ATIONS | | Supply pompressure by Tolerance Shutoff so Volt OVERFLOW GOOD Rated speed Overflow Good Com/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated speed Overflow Good Com/10s Rated speed Overflow Good Com/10s | np par : hPa : blenoid : QUANTITY ed rpm : quantity : rance : lenoid : d rpm : | 6. 0. 1 500 119. 22. 22. |
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| olerance m3/1000 strokes : 1.0 hutoff solenoid olt : 12 TARTING FUEL DELIVERY sted speed rpm : 100 el. quantity m3/1000 strokes : 45.0 olerance m3/1000 strokes : 20.0 hutoff solenoid olt : 12 NJECTION-PUMP TEST SPECIFIC MING DEVICE CHARACTERISTIC sted speed rpm : 2000 olerance mm : 0.4 heck olerance mm : 0.9 hutoff solenoid olt : 12 sted speed rpm : 1000 // travel mm : 1.7 olerance mm : 0.4 heck olerance mm : 0.4 heck olerance mm : 0.9 | ATIONS | - | Shutoff so Volt OVERFLOW G Rated spee Overflow G ccm/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow G ccm/10s | CUANTITY Cod rpm : quantity : crance : clenoid : d rpm : | 500 119. 22. 22. |
| m3/1000 strokes: 1.0 hutoff solenoid olt: 12 TARTING FUEL DELIVERY ated speed rpm: 100 el. quantity m3/1000 strokes: 45.0 olerance m3/1000 strokes: 20.0 hutoff solenoid olt: 12 NJECTION-PUMP TEST SPECIFIC MING DEVICE CHARACTERISTIC ated speed rpm: 2000 olerance mm: 0.4 heck olerance mm: 0.9 hutoff solenoid olt: 12 ated speed rpm: 1000 // travel mm: 1.7 olerance mm: 0.4 heck olerance mm: 0.4 heck olerance mm: 0.4 heck olerance mm: 0.4 heck olerance mm: 0.4 heck olerance mm: 0.9 | ATIONS | - | Volt OVERFLOW G Rated spee Overflow G ccm/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow G ccm/10s | CUANTITY ed rpm : quantity : crance : clenoid : d rpm : | 500 119. 22. 22. |
| hutoff solenoid olt : 12 TARTING FUEL DELIVERY ated speed rpm : 100 el. quantity m3/1000 strokes : 45.0 olerance m3/1000 strokes : 20.0 olerance m3/1000 strokes : 20.0 olerance m4 : 12 NJECTION-PUMP TEST SPECIFIC MING DEVICE CHARACTERISTIC mated speed rpm : 2000 olerance m4 : 0.4 olerance m5 : 0.9 olerance m6 : 1.7 olerance m7 : 1.7 olerance m7 : 0.4 olerance m7 : 0.4 olerance m7 : 0.4 olerance m7 : 0.4 olerance m7 : 0.4 olerance m7 : 0.9 olerance m7 : 0.9 olerance m7 : 0.9 | ATIONS | | OVERFLOW G Rated spee Overflow G ccm/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow G ccm/10s | ed rpm : quantity : crance : clenoid : d rpm : | 500 119. 22. 22. |
| TARTING FUEL DELIVERY ated speed rpm : 100 el. quantity m3/1000 strokes : 45.0 blerance m3/1000 strokes : 20.0 nutoff solenoid blt : 12 NJECTION-PUMP TEST SPECIFIC MING DEVICE CHARACTERISTIC ated speed rpm : 2000 blerance mm : 0.4 neck blerance mm : 0.9 nutoff solenoid blt : 12 ated speed rpm : 1000 / travel mm : 1.7 blerance mm : 0.4 neck blerance mm : 0.4 neck blerance mm : 0.9 |) ? ATIONS | - | Rated speed Overflow of ccm/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated speed Overflow of ccm/10s | ed rpm : quantity : crance : clenoid : d rpm : | 119. 22. 22. 1 |
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| ated speed rpm : 100 el. quantity m3/1000 strokes : 45.0 plerance m3/1000 strokes : 20.0 nutoff solenoid plt : 12 NJECTION-PUMP TEST SPECIFIC IMING DEVICE CHARACTERISTIC ated speed rpm : 2000 plerance mm : 0.4 plerance mm : 0.9 nutoff solenoid plt : 12 ated speed rpm : 1000 / travel mm : 1.7 plerance mm : 0.4 plerance mm : 0.4 plerance mm : 0.9 plerance mm : 0.9 plerance mm : 0.9 plerance mm : 0.4 plerance mm : 0.9 | ations | | Overflow of ccm/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow of ccm/10s | quantity : : : : : : : : : : : : : : : : : : : | 119. 22. 22. 1 |
| el. quantity m3/1000 strokes : 45.0 plerance m3/1000 strokes : 20.0 nutoff solenoid plt : 12 NJECTION-PUMP TEST SPECIFIC IMING DEVICE CHARACTERISTIC ated speed rpm : 2000 plerance mm : 0.4 plerance mm : 0.9 nutoff solenoid plt : 12 Ated speed rpm : 1000 / travel mm : 1.7 plerance mm : 0.4 plerance mm : 0.9 plerance mm : 0.9 plerance mm : 0.9 plerance mm : 0.9 | ations | - | Overflow of ccm/10s Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow of ccm/10s | quantity : : : : : : : : : : : : : : : : : : : | 119. 22. 22. 1 |
| el. quantity m3/1000 strokes : 45.0 plerance m3/1000 strokes : 20.0 nutoff solenoid plt : 12 NJECTION-PUMP TEST SPECIFIC IMING DEVICE CHARACTERISTIC ated speed rpm : 2000 plerance mm : 0.4 plerance mm : 0.9 nutoff solenoid plt : 12 Ated speed rpm : 1000 / travel mm : 1.7 plerance mm : 0.4 plerance mm : 0.9 plerance mm : 0.9 plerance mm : 0.9 plerance mm : 0.9 | ations | | Tolerance ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow q ccm/10s | : lenoid : d rpm : | 22. 22. 1 |
| m3/1000 strokes : 45.0 plerance m3/1000 strokes : 20.0 plerance m3/1000 strokes : 20.0 plerance m4 : 20.0 plerance m5 : 2000 plerance m5 : 2000 plerance m6 : 0.4 plerance m7 : 0.9 plerance m7 : 1.7 plerance m7 : 1.7 plerance m7 : 0.4 plerance m7 : 0.4 plerance m7 : 0.4 plerance m7 : 0.4 plerance m7 : 0.4 plerance m7 : 0.4 plerance m7 : 0.4 plerance m7 : 0.9 plerance m7 : 0.9 | ations | | ccm/10s Check tole ccm/10s Shutoff so Volt Rated spee Overflow q ccm/10s | : lenoid : d rpm : | 22. 1 |
| Discrepance m3/1000 strokes : 20.0 mutoff solenoid but : 12 NJECTION-PUMP TEST SPECIFIC IMING DEVICE CHARACTERISTIC mated speed rpm : 2000 polerance mm : 0.4 meck polerance mm : 0.9 mutoff solenoid but : 12 mated speed rpm : 1000 // travel mm : 1.7 polerance mm : 0.4 meck polerance mm : 0.9 meck polerance mm : 0.9 | ations | | Check tole ccm/10s Shutoff so Volt Rated spee Overflow q ccm/10s | : lenoid : d rpm : | 22. 1 |
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| NJECTION-PUMP TEST SPECIFIC IMING DEVICE CHARACTERISTIC ated speed rpm : 2000 blerance mm : 0.4 heck blerance mm : 0.9 hutoff solenoid blt : 12 ated speed rpm : 1000 / travel mm : 1.7 blerance mm : 0.4 heck blerance mm : 0.9 | ATIONS | | Volt Rated spee Overflow q ccm/10s | d rpm : | |
| MING DEVICE CHARACTERISTIC ated speed rpm : 2000 blerance mm : 0.4 blerance mm : 0.9 blerance mm : 0.9 blerance mm : 12 blerance mm : 1000 blerance mm : 1.7 blerance mm : 0.4 blerance mm : 0.4 blerance mm : 0.9 | : | - - - | Rated spee Overflow q ccm/10s | | |
| MING DEVICE CHARACTERISTIC ated speed rpm : 2000 blerance mm : 0.4 blerance mm : 0.9 blerance mm : 0.9 blerance mm : 12 blerance mm : 1000 blerance mm : 1.7 blerance mm : 0.4 blerance mm : 0.4 blerance mm : 0.9 | : | - - - | + Overflow q + ccm/10s | | 1950 |
| MING DEVICE CHARACTERISTIC ated speed rpm : 2000 blerance mm : 0.4 blerance mm : 0.9 blerance mm : 0.9 blerance mm : 12 blerance mm : 1000 blerance mm : 1.7 blerance mm : 0.4 blerance mm : 0.4 blerance mm : 0.9 | : | - - - | + Overflow q + ccm/10s | | |
| MING DEVICE CHARACTERISTIC ated speed rpm : 2000 blerance mm : 0.4 blerance mm : 0.9 blerance mm : 0.9 blerance mm : 12 blerance mm : 1000 blerance mm : 1.7 blerance mm : 0.4 blerance mm : 0.4 blerance mm : 0.9 | : | - - | • | • | |
| MING DEVICE CHARACTERISTIC ated speed rpm : 2000 blerance mm : 0.4 blerance mm : 0.9 blerance mm : 0.9 blerance mm : 12 blerance mm : 1000 blerance mm : 1.7 blerance mm : 0.4 blerance mm : 0.4 blerance mm : 0.9 | : | - - | + Tolerance | : | 150. |
| ated speed rpm : 2000 blerance mm : 0.4 blerance mm : 0.9 butoff solenoid blt : 12 bated speed rpm : 1000 blerance mm : 0.4 blerance mm : 0.4 blerance mm : 0.9 | | | | | → , |
| ated speed rpm : 2000 blerance mm : 0.4 blerance mm : 0.9 butoff solenoid blt : 12 bated speed rpm : 1000 blerance mm : 0.4 blerance mm : 0.4 blerance mm : 0.9 | | - | + ccm/10s | : | 34. |
| olerance mm : 0.4 neck olerance mm : 0.9 nutoff solenoid olt : 12 nted speed rpm : 1000 // travel mm : 1.7 olerance mm : 0.4 neck olerance mm : 0.9 | | | † + Check tole | rance | |
| olerance mm : 0.4 neck olerance mm : 0.9 nutoff solenoid olt : 12 nted speed rpm : 1000 // travel mm : 1.7 olerance mm : 0.4 neck olerance mm : 0.9 | | | + ccm/10s | | 34. |
| neck plerance mm : 0.9 nutoff solenoid plt : 12 ated speed rpm : 1000 // travel mm : 1.7 plerance mm : 0.4 neck plerance mm : 0.9 | | • | + Shutoff so | | 54. |
| olerance mm : 0.9 nutoff solenoid olt : 12 ated speed rpm : 1000 / travel mm : 1.7 olerance mm : 0.4 neck olerance mm : 0.9 | | - | + Volt | : | 1 |
| ated speed rpm : 1000 / travel mm : 1.7 olerance mm : 0.4 neck olerance mm : 0.9 | į. | - | + | | |
| ated speed rpm : 1000 / travel mm : 1.7 olerance mm : 0.4 neck olerance mm : 0.9 | | - | + DELIVERY A | ND BREAKA | WAY CHAR |
| / travel mm : 1.7 blerance mm : 0.4 neck blerance mm : 0.9 | | • | + | | 0000 |
| / travel mm : 1.7 blerance mm : 0.4 neck blerance mm : 0.9 | | - | + Rated spee | | 2200 |
| olerance mm : 0.4 neck olerance mm : 0.9 | | - | + Del. quant | | 27 (|
| olerance mm : 0.4 neck olerance mm : 0.9 | ı | _ | + cm3/1000 s + Tolerance | rrokes : | 23.0 |
| neck blerance mm : 0.9 | | - - | + cm3/1000 s | trakes · | 1.0 |
| olerance mm : 0.9 | | - | + Check tole | | (•) |
| · · · · · · · · · · · · · · · · · · · | | - | + cm3/1000s. | | 5.0 |
| | | - | + Shutoff so | | |
| olt : 12 | | - | + Volt | : | 17 |
| | | = | † | • | 0415 |
| IPPLY PUMP PRESSURE CHARACTI | ERISTIC | 7 | + Rated speed | | 2140 |
| | | 1 | Del. quant | | 20.4 |
| ited speed rpm : 2000 | | 7 | cm3/1000 s [.] Tolerance | trokes : | 29.5 |
| upply pomp ressure bar : 8.9 | | | + cm3/1000 s | trokes : | 3.0 |
| plerance hPa : 0.3 | | | + Check tole | | ٠, ١ |
| nutoff solenoid | | | cm3/1000s. | | 6.0 |
| olt : 12 | | 1 | Shutoff so | | |
| | | - - - - | 1 | : | 12 |
| ted speed rpm : 500 | | 7 7 | + Volt | | |
| abbly bound | | | + | | 2400 |
| essure bar : 5.5 | | | Rated speed | | 2.5 |
| elerance hPa : 0.3 | | | + | ity | , , |

| Tolerance | | | + Rated speed rpm | : | 425 | |
|----------------------------|------|------------|--|-------|--------------|---|
| cm3/1000 strokes | : | 2.5 | + Del. quantity | • | .23 | |
| Check tolerance | , | | + cm3/1000 strokes | : | 1.5 | |
| cm3/1000s. | : | 2.5 | + Tolerance | • | , | |
| Shutoff solenoid | · | 245 | + cm3/1000 strokes | : | 1.5 | |
| Volt | • | 12 | Spread | • | 1.5 | |
| 3 000 | • | 16 | cm3/1000 strokes | : | 5.0 | |
| Amonoid amonouno | | | | • | ال. ن | |
| Aneroid pressure | | | + Check tolerance | _ | 4 - | |
| hPa | ÷ | | + cm3/1000s. | : | 1.5 | |
| 1.5.5.7 | | | Spread | | 5 0 | |
| LDA/ | | | + cm3/1000 strokes | : | 5.0 | |
| HBA stroke mm | : | 7.7 | † | | | |
| | | | † IDLE DELIVERY | | | |
| Rated speed rpm | : | 1950 | + | | | |
| Del. quantity | | | + Rated speed rpm | : | 500 | |
| cm3/1000 strokes | : | 37.0 | + Del. quantity | | | |
| Tolerance | | | + cm3/1000 strokes | : | 3.0 | |
| cm3/1000 strokes | : | 1.2 | ↓ Tolerance | | | |
| Check tolerance | | | + cm3/1000 strokes | : | 3.0 | • |
| cm3/1000s. | • | 2.5 | + Check tolerance | • | | |
| Shutoff solenoid | • | | + cm3/1000s. | • | 3.0 | |
| Volt | • | 12 | + Shutoff solenoid | • | 5.0 | |
| VOCE | • | 1,2 | + Volt | | 12 | |
| Rated speed rpm | : | 1700 | T | • | 12 | |
| | • | 1700 | Ţ | | | |
| Del. quantity | _ | 38.0 | Ť | | | |
| cm3/1000 strokes | : | 30.0 | Ť | | | |
| Tolerance | | 4.5 | † | | | |
| cm3/1000 strokes | : | 1.2 | † | | | |
| Check tolerance | | | † | | | |
| cm3/1000s. | : | 2.5 | + EXHAUST-GAS RECI | RCULA | ATION | |
| Shutoff solenoid | | | + | | | |
| Volt | : | 12 | + Rated speed rpm | : | 1250 | |
| | | | + Del. quantity | | | |
| Rated speed rpm | : | 500 | + cm3/1000 strokes | : | 21.3 | |
| Del. quantity | | | + Tolerance | | | |
| cm3/1000 strokes | : | 25.5 | + cm3/1000 strokes | : | 0.5 | |
| Tolerance | | | + Check tolerance | | | |
| cm3/1000 strokes | : | 0.2 | → cm3/1000s. | : | 2.5 | |
| Check tolerance | • | | + Shutoff solenoid | • | | |
| cm3/1000s. | • | 3.0 | + Volt | • | 12 | |
| Shutoff solenoid | • | J.0 | 1 | • | . – | |
| Volt | | 12 | T START TRANSITION | | | |
| 1000 | • | ۱ ـ | 1 OTAKI TKANSITION | | | |
| | | | Rated speed rpm | : | 480 | |
| | | | | • | 400 | |
| ELECTR CHUTOEE | | | + cm3/1000 strokes | | 26.0 | |
| ELECTR. SHUTOFF | | TOD | • | • | 20.0 | |
| CONTROL LEVER, ID | LE 3 | 108 | + Tolerance | _ | | |
| Onto Land | | / 25 | + cm3/1000 strokes | : | 6.0 | |
| Rated speed rpm | : | 425 | + Shutoff solenoid | | 40 | |
| Del. quantity | | 4.5 | † Volt | : | 12 | |
| cm3/1000 strokes | : | 1.5 | † | | | |
| Tolerance | | | † <u> </u> | | - | |
| cm3/1000 strokes | | | + Rated speed rpm | : | 300 | |
| Check tolerance | : | 1.5 | | • | 200 | |
| | : | | + Del. quantity | | | |
| cm3/1000S. | : | 1.5 1.5 | + Del. quantity + cm3/1000 strokes | | 48.0 | |
| Spread | : | 1.5 | Del. quantity cm3/1000 strokes Tolerance | : | 48.0 | |
| | : | | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | | |
| Spread | : | 1.5 | Del. quantity cm3/1000 strokes Tolerance | : | 48.0 | |
| Spread | : | 1.5 5.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 48.0 | |
| Spread cm3/1000 strokes | : | 1.5 5.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | 48.0 15.0 | |

LDA/

HBA stroke mm : 7.7 Dimension K mm : 2,8

Tolerance mm : +-0,1
Dimension KF mm : 8,4
Tolerance mm : +-0,2
Dimension MS mm : 1,8
Tolerance mm : +-0,2

MICROSWITCH

SET

: ARF 20,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 42,8..45,8

Control lever

position YB mm : 59,5..71,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.06.96 Edition : ISO 4113 Test oil

: 0 460 414 139 Part no. Pump designation: VE4/11F2000R624-3

Customer-spec. information Customer : FORD : 2.5L-DI Motor Power KW 51.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance *C

Overflow

restriction mm : 0.75

0.35 Inlet press. bar : Tolerance bar :

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

207 bar Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

2.00 x inside diameter : x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,52 Tolerance mm : +-0,05 : B KDEP1151 Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

2.7 Setting mm Tolerance mm 0.1 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa 7.4 Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1150 Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 36.0 Del. quantity cm3/1000 strokes :

28.5

Tolerance

cm3/1000 strokes : 0.5

Tolerance

cm3/1000 strokes : 0.2

Spread

cm3/1000 strokes : 3.0

Shutoff solenoid

12 Volt

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s.4.0

IDLE SETTING

Rated speed rpm 425

Del. quantity

cm3/1000 strokes : 10.5

Tolerance

cm3/1000 strokes : 1.0

Shutoff solenoid

Volt 12

Spread

3.0

cm3/1000 strokes :

Check tolerance

cm3/1000s.4.0

| | | + | Shutoff solenoid | | 40 | |
|--------------------------------|----------------|----------|---|-----|------------|---------|
| FULL-LOAD SPEED F | EGULATION | Į | Volt | : | 12 | |
| Rated speed rpm | : 2200 | 1 | Rated speed rpm Supply pomp | : | 1150 | |
| Del. quantity | | + | pressure bar | : | 7.2 | |
| cm3/1000 strokes | : 26.0 | † | Tolerance hPa | : | 0.3 | |
| Tolerance cm3/1000 strokes | : 1.0 | ‡ | Shutoff solenoid Volt | : | 12 | |
| Shutoff solenoid Volt | : 12 | ‡ | OVERFLOW QUANTITY | | | |
| 074077N0 5H51 551 | 71./501/ | + | | | 500 | |
| STARTING FUEL DEL | IVERY | Ī | Rated speed rpm Overflow quantity | | 500 | |
| Rated speed rpm | : 100 | + | ccm/10s | : | 119.4 | |
| Del. quantity cm3/1000 strokes | : 45.0 | † | Tolerance ccm/10s | | 22.2 | |
| Tolerance | : 45.0 | Ī | CCM/ TUS | : | 22.2 | |
| cm3/1000 strokes | : 20.0 | 1 | Check tolerance | | | |
| Shutoff solenoid | . 43 | + | ccm/10s | : | 22.2 | |
| Volt | : 12 | 1 | Shutoff solenoid Volt | | 12 | |
| | | 1 | 1011 | • | , _ | |
| | | † | Rated speed rpm | | 1950 | |
| | · | | Overflow quantity ccm/10s | | 150.0 | |
| INJECTION-PUMP TE | ST SPECIFICATI | ons + | Tolerance | • | | |
| TIMING DEVICE CUA | DACTEDICTIC | † | ccm/10s | : | 34.7 | |
| TIMING DEVICE CHA | RACIERISTIC | Ī | Check tolerance | | | |
| Rated speed rpm | : 2000 | + | ccm/10s | : | 34.7 | |
| Tolerance mm | : 0.4 | + | Shutoff solenoid | | 42 | |
| Check tolerance mm | : 0.9 | 1 | Volt | : | 12 | |
| Shutoff solenoid | · | + | DELIVERY AND BREA | KAW | AY CHARACT | ERISTIC |
| Volt | : 12 | † | 0-4-1 | | 2200 | |
| Rated speed rpm | : 1000 | † | Rated speed rpm Del. quantity | : | 2200 | |
| Marca Opeca (jsm | | + | cm3/1000 strokes | : | 26.0 | |
| SV travel mm | : 1.5 | + | Tolerance | | 4.6 | |
| Tolerance mm Check | : 0.4 | İ | cm3/1000 strokes Check tolerance | : | 1.0 | |
| tolerance mm | : 0.9 | Ţ | cm3/1000s. | : | 5.0 | |
| Shutoff solenoid | 4.0 | + | Shutoff solenoid | | 4.0 | |
| Volt | : 12 | 1 | Volt | : | 12 | |
| SUPPLY PUMP PRESS | JRE CHARACTERI | STIC | Rated speed rpm Del. quantity | : | 2300 | |
| Rated speed rpm | : 2000 | + | cm3/1000 strokes | : | 12.0 | |
| Supply pomp | | + | Check tolerance | | | |
| pressure bar Tolerance hPa | : 9.0 : 0.3 | 1 | cm3/1000S. Shutoff solenoid | : | 6.0 | |
| Shutoff solenoid | . 0.5 | Ţ | Volt | : | 12 | |
| Volt | : 12 | + | Date of the state | | | |
| Rated speed rpm | : 500 | 1 | Rated speed rpm Del. quantity | : | 2400 | |
| Supply pomp | | Į | cm3/1000 strokes | : | 2.5 | |
| pressure bar | : 5.7 | + | Tolerance | | | |
| Tolerance hPa | : 0.3 | 1 | cm3/1000 strokes | : | 2.5 | |
| | | T | | | | |

| Check tolerance | | 3 F | † | Del. quantity | | 4 5 | |
|--|---------------------------------|--|---|--|---|---|--|
| cm3/1000s. Shutoff solenoid | • | 2.5 | ‡ | cm3/1000 strokes Tolerance | | 1.5 | |
| Volt | : | 12 | ‡ | cm3/1000 strokes Spread | : | 1.5 | |
| Aneroid pressure hPa | : | | <u> </u> | cm3/1000 strokes Check tolerance | : | 5.0 | |
| LDA/ | · | | 1 | cm3/1000s. Spread | : | 1.5 | |
| HBA stroke mm | : | 7.2 | - | cm3/1000 strokes | : | 5.0 | |
| Rated speed rpm | : | 1950 | Ŧ | IDLE DELIVERY | | | |
| Del. quantity cm3/1000 strokes | : | 41.5 | ‡ | Rated speed rpm | : | 500 | |
| Tolerance cm3/1000 strokes | : | 1.2 | ‡ | Del. quantity cm3/1000 strokes | : | 3.0 | |
| Check tolerance cm3/1000s. | : | 2.5 | ‡ | Tolerance cm3/1000 strokes | : | 3.0 | |
| Shutoff solenoid Volt | • | 12 | 1 | Check tolerance cm3/1000s. | • | 3.0 | |
| | • | | Ŧ | Shutoff solenoid | • | | |
| Del. quantity | | 1700 | Ŧ | Volt | • | 12 | |
| cm3/1000 strokes Tolerance | : | 40.0 | ‡ | | | | |
| cm3/1000 strokes Check tolerance | : | 1.2 | ‡ | | | | |
| cm3/1000s. Shutoff solenoid | : | 2.5 | 1 | EXHAUST-GAS RECIR | ירווו ב | ATTON | |
| | | | - { | EMINOUT OND MECTIV | ,000 | 11 - 011 | |
| Volt | : | 12 | † | Dated around are | | 1250 | |
| Rated speed rpm | : | 12 500 | + | Rated speed rpm Del. quantity | | 1250 | |
| Rated speed rpm Del. quantity cm3/1000 strokes | | | † † † † | Del. quantity cm3/1000 strokes Tolerance | : | 22.5 | |
| Rated speed rpm Del. quantity | : | 500 | † † † † † | Del. quantity cm3/1000 strokes | : | | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 500 28.5 0.2 | + | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 22.5 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 500 28.5 0.2 3.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 22.5 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 500 28.5 0.2 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 22.5 0.5 2.5 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 500 28.5 0.2 3.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt START TRANSITION Rated speed rpm | : | 22.5 0.5 2.5 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : : : | 500 28.5 0.2 3.0 12 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes | : : : : : | 22.5 0.5 2.5 12 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF | : : : | 500 28.5 0.2 3.0 12 | +++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity | : | 22.5 0.5 2.5 12 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity | : : : : LE STO | 500 28.5 0.2 3.0 12 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | 22.5 0.5 2.5 12 480 26.0 6.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : LE STO | 500 28.5 0.2 3.0 12 0P 425 1.5 | +++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 22.5 0.5 2.5 12 480 26.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : : : : LE STO | 500 28.5 0.2 3.0 12 0P 425 1.5 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm | : | 22.5 0.5 2.5 12 480 26.0 6.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : : : | 500 28.5 0.2 3.0 12 OP 425 1.5 1.5 1.5 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Shutoff solenoid Volt | | 22.5 0.5 2.5 12 480 26.0 6.0 12 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : : : : : : | 500 28.5 0.2 3.0 12 OP 425 1.5 1.5 1.5 5.0 | ++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes | | 22.5 0.5 2.5 12 480 26.0 6.0 12 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : : | 500 28.5 0.2 3.0 12 OP 425 1.5 1.5 1.5 5.0 | ++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | | 22.5 0.5 2.5 12 480 26.0 6.0 12 300 48.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : : : : : : | 500 28.5 0.2 3.0 12 OP 425 1.5 1.5 1.5 5.0 | +++++++++++++++++++++++++++++++++++++++ | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | | 22.5 0.5 2.5 12 480 26.0 6.0 12 300 48.0 15.0 | |

LDA/

HBA stroke mm 7.2 Dimension K mm : 2,8 : +-0,1 Tolerance mm Dimension KF mm : 8,4 : +-0,2 : 1,8 Tolerance mm

Dimension MS mm : +-0,2 Tolerance mm

MICROSWITCH SET

: ARF 20,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 41,0..44,0

Control lever

position YB mm : 63,0..75,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.05.96 Test oil : ISO 4113

: 0 460 414 150 Part no. Pump designation: VE4/11F2000R624-4

Customer-spec. information Customer : FORD : 2.51 DI Motor Power KW 56.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.75 restriction mm

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

bar 207 Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,52 Tolerance mm : +-0,05

Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

2.7 Setting mm : Tolerance mm 0.1 :

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

Setting hPa 7.2 Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1000 Rated speed rpm : Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 34.0 Del. quantity

cm3/1000 strokes : 25.5 Tolerance

cm3/1000 strokes :

Tolerance

cm3/1000 strokes :

Spread

cm3/1000 strokes : 3.0 Shutoff solenoid

Volt

12 Shutoff solenoid

Volt

12

Check tolerance

cm3/1000S. 4.0

IDLE SETTING

Rated speed rpm 425

Del. quantity cm3/1000 strokes :

9.0

0.5

0.2

Tolerance

cm3/1000 strokes 1.0

Shutoff solenoid

12 Volt

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.4.0

| | | + Shutoff solenoid | |
|----------------------------------|---------------------|---------------------------------------|---------------------|
| | | Volt | : 12 |
| FULL-LOAD SPEED I | REGULATION | Pated aroud pro | : 1000 |
| Rated speed rpm | : 2200 | + Rated speed rpm + Supply pomp | : 1000 |
| Del. quantity | | + pressure bar | : 6.7 |
| cm3/1000 strokes | : 23.0 | + Tolerance hPa | : 0.3 |
| Tolerance cm3/1000 strokes | : 1.0 | + Shutoff solenoid + Volt | : 12 |
| Shutoff solenoid | · · · · · · · · · | + | . 12 |
| Volt | : 12 | + OVERFLOW QUANTITY | |
| STARTING FUEL DEL | ITVERY | † Rated speed rpm | : 500 |
| OTARTING FOLL DE | | + Overflow quantity | • 500 |
| Rated speed rpm | : 100 | + ccm/10s | : 119.4 |
| Del. quantity cm3/1000 strokes | : 45.0 | + Tolerance + ccm/10s | : 22.2 |
| Tolerance | . 45.0 | T CCIII/ TUS | : 22.2 |
| cm3/1000 strokes | : 20.0 | † Check tolerance | |
| Shutoff solenoid | . 12 | + ccm/10s | : 22.2 |
| Volt | : 12 | + Shutoff solenoid + Volt | : 12 |
| | | + | , , |
| | | | : 1950 |
| | | - + Overflow quantity - + ccm/10s | : 150.0 |
| INJECTION-PUMP TE | EST SPECIFICATIONS | + Tolerance | . 150.0 |
| | | + ccm/10s | : 34.7 |
| TIMING DEVICE CHA | ARACTERISTIC | † + Check tolerance | |
| Rated speed rpm | : 2000 | + ccm/10s | : 34.7 |
| Tolerance mm | : 0.4 | + Shutoff solenoid | |
| Check | : 0.9 | † Volt | : 12 |
| tolerance mm Shutoff solenoid | . 0.9 | T DELIVERY AND BREAK | AWAY CHARACTERISTIC |
| Volt | : 12 | + | |
| On Annah amanah anan | . 1000 | | : 2200 |
| Rated speed rpm | : 1000 | + Del. quantity + cm3/1000 strokes | : 23.0 |
| SV travel mm | : 1.7 | + Tolerance | |
| Tolerance mm | : 0.4 | cm3/1000 strokes | : 1.0 |
| Check tolerance mm | : 0.9 | + Check tolerance + cm3/1000s. | : 5.0 |
| Shutoff solenoid | | Shutoff solenoid | . 5.0 |
| Volt | : 12 | † Volt | : 12 |
| CLIDDLY DUMB DDECC | SURE CHARACTERISTIC | + Rated speed rpm | : 2140 |
| SUPPLI PUMP PRESS | OURE CHARACTERISTIC | Del. quantity | : 2140 |
| Rated speed rpm | : 2000 | t cm3/1000 strokes | : 29.5 |
| Supply pomp | ; 8.9 | Tolerance | . 7.0 |
| pressure bar Tolerance hPa | : 0.3 | cm3/1000 strokes Check tolerance | : 3.0 |
| Shutoff solenoid | | + cm3/1000s. | : 6.0 |
| Volt | : 12 | + Shutoff solenoid | . 42 |
| Rated speed rpm | : 500 | † Volt | : 12 |
| Supply pomp | | | : 2400 |
| pressure bar | : 5.5 | Del. quantity | . 25 |
| Tolerance hPa | : 0.3 | cm3/1000 strokes | : 2.5 |
| | | ı | |

| Tolerance | | _ | + | Rated speed rpm | : | 425 | |
|-------------------------------------|------|-------|--------------|--------------------------------------|-----|--------|-------------|
| cm3/1000 strokes Check tolerance | : | 2.5 | † | Del. quantity cm3/1000 strokes | : | 1.5 | |
| cm3/1000s. | : | 2.5 | I | Tolerance | • | 1.5 | |
| Shutoff solenoid | | | + | cm3/1000 strokes | : | 1.5 | |
| Volt | : | 12 | † | Spread cm3/1000 strokes | | 5.0 | |
| Aneroid pressure | | | Į | Check tolerance | • | 7.0 | |
| hPa | : | | + | cm3/1000s. | : | 1.5 | |
| LDA/ | | | 1 | Spread cm3/1000 strokes | : | 5.0 | |
| HBA stroke mm | : | 7.7 | | cinor rood at: area | • | 3.0 | |
| | | 4050 | † | IDLE DELIVERY | | | |
| Rated speed rpm Del. quantity | : | 1950 | İ | Rated speed rpm | : | 500 | |
| cm3/1000 strokes | : | 37.0 | 1 | Del. quantity | • | | |
| Tolerance | | 4.0 | + | cm3/1000 strokes | : | 3.0 | |
| cm3/1000 strokes Check tolerance | : | 1.2 | Ī | Tolerance cm3/1000 strokes | • | 3.0 | |
| cm3/1000s. | : | 2.5 | 1 | Check tolerance | • | | |
| Shutoff solenoid | | 42 | + | cm3/1000s. | : | 3.0 | |
| Volt | : | 12 | 1 | Shutoff solenoid Volt | : | 12 | |
| Rated speed rpm | : | 1700 | + | 75(7 | • | | |
| Del. quantity | | 70.0 | + | | | | |
| cm3/1000 strokes Tolerance | : | 38.0 | 1 | | | | |
| cm3/1000 strokes | : | 1.2 | + | | | | |
| Check tolerance | | 2.5 | † | EXHAUST-GAS RECIR | CUL | TTON | |
| cm3/1000s. Shutoff solenoid | • | 2.5 | Ī | EXHMUST GAS RECTR | | 41 TOM | |
| Volt | : | 12 | + | Rated speed rpm | : | 1250 | |
| Rated speed rpm | : | 500 | <u>†</u> | Del. quantity cm3/1000 strokes | • | 21.3 | |
| Del. quantity | • | 500 | Ţ | Tolerance | • | 21.5 | |
| cm3/1000 strokes | : | 25.5 | + | cm3/1000 strokes | : | 0.5 | |
| Tolerance cm3/1000 strokes | • | 0.2 | 1 | Check tolerance cm3/1000s. | • | 2.5 | |
| Check tolerance | • | | 1 | Shutoff solenoid | • | | |
| cm3/1000s. | : | 3.0 | + | Volt | : | 12 | |
| Shutoff solenoid Volt | • | 12 | 1 | START TRANSITION | | | |
| VOCC | • | 16 | Ţ | | | | |
| | | | + | Rated speed rpm | : | 480 | |
| ELECTR. SHUTOFF | | | | Del. quantity cm3/1000 strokes | : | 26.0 | |
| CONTROL LEVER, ID | LE S | TOP | + | Tolerance | | | |
| Datad accord non- | | / 25 | † | cm3/1000 strokes Shutoff solenoid | : | 6.0 | |
| Rated speed rpm Del. quantity | : | 425 | I | Volt | : | 12 | |
| cm3/1000 strokes | : | 1.5 | + | | | - | |
| Tolerance cm3/1000 strokes | • | 1.5 | † | Rated speed rpm | : | 300 | |
| Check tolerance | • | ر۱۰۰ | Į | Del. quantity | | | |
| cm3/1000s. | : | 1.5 | + | cm3/1000 strokes | : | 48.0 | |
| Spread cm3/1000 strokes | • | 5.0 | İ | Tolerance cm3/1000 strokes | : | 15.0 | |
| SHOT TOUG SELUKES | • | ٠.٠ | Ţ | Shutoff solenoid | • | | |
| FULL-LOAD STOP CO | NTRO | LEVER | + | Volt | : | 12 | |
| | | | + | | | | |

LDA/

HBA stroke mm : 7.7

Dimension K mm : 2,8
Tolerance mm : +-0,1
Dimension KF mm : 8,4
Tolerance mm : +-0,2
Dimension MS mm : 1,8
Tolerance mm : +-0,2

MICROSWITCH

SET

: ARF 20,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 42,8..45,8

Control lever

position YB mm : 59,5..71,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03.06.96 Test oil : ISO 4113

Part no. : 0 460 414 132 Pump designation : VE4/11F2000R663

Customer-spec. information
Customer : OTOSAN
Motor : 2.5L-DI
Power KW : 74.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 114

Opening pressure

bar : 207 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x Length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,62
Tolerance mm : +-0,05
Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

hPa : 1000

Setting mm : 3.2 Tolerance mm : 0.3

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa : 1000

Setting hPa : 7.0 Tolerance hPa : 0.3 Shutoff solenoid

Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

TOLL LOND DELIVERY WITH DODG! THEODOM

Rated speed rpm : 800

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 strokes : 0.2

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 29.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

Check tolerance

cm3/1000s. : 4.0

IDLE SETTING

Rated speed rpm : 425

| Del. quantity | | + Rated speed rpm : 1500 |
|--|-----------------------------------|---|
| cm3/1000 strokes | : 7.7 | Del. quantity |
| Tolerance | | + cm3/1000 strokes : −1.8 |
| cm3/1000 strokes Shutoff solenoid | | + Tolerance + cm3/1000 strokes : 0.1 |
| Volt | : 12 | + Shutoff solenoid |
| Spread | | + Volt : 12 |
| cm3/1000 strokes | : 3.0 | + |
| Check tolerance cm3/1000s. | : 4.0 | + INJECTION-PUMP TEST SPECIFICATIONS |
| Chor ruuus. | . 4.0 | + INJECTION-FORF TEST SPECIFICATIONS |
| | | TIMING DEVICE CHARACTERISTIC |
| FULL-LOAD SPEED F | REGULATION | 4500 |
| Rated speed rpm | : 2200 | + Rated speed rpm : 1500 + Aneroid pressure |
| Pressure hPa | : 1000 | + hPa : 1000 |
| Del. quantity | | Tolerance mm : 0.4 |
| cm3/1000 strokes | : 17.8 | + Check |
| Tolerance | 4.0 | tolerance mm : 0.9 |
| cm3/1000 strokes Shutoff solenoid | : 1.0 | + Shutoff solenoid + Volt : 12 |
| Volt | : 12 | Ţ voct . 12 |
| | | Rated speed rpm : 1000 |
| STARTING FUEL DEL | IVERY | + Aneroid pressure |
| Dotod amond ann | : 100 | hPa : 1000 |
| Rated speed rpm Del. quantity | : 100 | T SV travel mm : 1.9 |
| cm3/1000 strokes | : 80.0 | Tolerance mm : 0.4 |
| Tolerance | | + Check |
| cm3/1000 strokes | : 20.0 | tolerance mm : 0.9 |
| Shutoff solenoid Volt | : 12 | + Shutoff solenoid + Volt : 12 |
| VOCC | . 12 | T vocc . 12 |
| | | SUPPLY PUMP PRESSURE CHARACTERISTIC |
| | | + 2 |
| LOAD-DEPENDENT ST SETTING | ART OF DELIVERY | + Rated speed rpm : 2000 + Aneroid pressure |
| 25117110 | | + hPa : 1000 |
| DELIVERY DIFFEREN | CE | + Supply pomp |
| | | pressure bar : 9.2 |
| Rated speed rpm | : 1500 | + Tolerance hPa : 0.3 |
| Del. quantity cm3/1000 strokes | : -5.6 | + Shutoff solenoid + Volt : 12 |
| Tolerance | , 5.0 | 1 |
| cm3/1000 strokes | : 1.0 | + Rated speed rpm : 1000 |
| Shutoff solenoid | 40 | + Aneroid pressure |
| Volt | : 12 | + hPa : 1000 + Supply pomp |
| PRESSURE DIFFEREN | | T 3000 (7 00110 |
| , 110000112 | CF | |
| Datad amond nam | CE | pressure bar : 6.5 Tolerance hPa : 0.3 |
| Rated speed rpm | CE : 1500 | + pressure bar : 6.5 + Tolerance hPa : 0.3 + Shutoff solenoid |
| Del. quantity | : 1500 | + pressure bar : 6.5 + Tolerance hPa : 0.3 |
| Del. quantity cm3/1000 strokes | : 1500 | <pre>pressure bar : 6.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12</pre> |
| Del. quantity cm3/1000 strokes Tolerance | : 1500 : -0.2 | + pressure bar : 6.5 + Tolerance hPa : 0.3 + Shutoff solenoid |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : 1500 : -0.2 : 0.1 | pressure bar : 6.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 OVERFLOW QUANTITY Rated speed rpm : 800 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : 1500 : -0.2 | pressure bar : 6.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 OVERFLOW QUANTITY Rated speed rpm : 800 Aneroid pressure |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | : 1500 : -0.2 : 0.1 : 12 | pressure bar : 6.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 OVERFLOW QUANTITY Rated speed rpm : 800 Aneroid pressure hPa : 1000 |
| Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : 1500 : -0.2 : 0.1 : 12 | pressure bar : 6.5 Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 OVERFLOW QUANTITY Rated speed rpm : 800 Aneroid pressure |

| Tolerance ccm/10s | : 22.2 | † | Aneroid pressure hPa | : | 450 | |
|--|-----------------------|------------------------------|--|------|-----------|--|
| Check tolerance ccm/10s | : 22.2 | + | LDA/ HBA stroke mm | : | 5.3 | |
| Shutoff solenoid Volt | : 12 | ‡ | Del. quantity cm3/1000 strokes | : | 35.0 | |
| Rated speed rpm Aneroid pressure | | ‡ | Tolerance cm3/1000 strokes Check tolerance | : | 0.5 | |
| hPa Overflow quantity | : 1000 | Ŧ | cm3/1000s. Shutoff solenoid | : | 3.0 | |
| ccm/10s Tolerance | ': 152.7 | + | Volt | : | 12 | |
| ccm/10s | : 41.6 | } | Rated speed rpm Aneroid pressure | : | 1950 | |
| Check tolerance ccm/10s | : 41.6 | ‡ | hPa Del. quantity | : | 1000 | |
| Shutoff solenoid Volt | : 12 | + | cm3/1000 strokes Tolerance | | 42.0 | |
| DELIVERY AND BREA | AKAWAY CHARACTERISTIC | + | cm3/1000 strokes Check tolerance | • | 1.2 | |
| Rated speed rpm Aneroid pressure | : 2200 | Ī | cm3/1000S. Shutoff solenoid Volt | : | 2.5 12 | |
| hPa Del. quantity | : 1000 | Ī | Rated speed rpm | : | 1750 | |
| cm3/1000 strokes Tolerance | : 17.8 | + | Aneroid pressure | : | 1000 | |
| Check tolerance | | } † | Del. quantity cm3/1000 strokes | : | 42.0 | |
| cm3/1000s. Shutoff solenoid | : 5.0 | | Tolerance cm3/1000 strokes | : | 1.2 | |
| Volt | : 12 | + | Check tolerance cm3/1000s. | : | 2.5 | |
| Rated speed rpm Aneroid pressure hPa | : 2150 : 1000 | Ī | Shutoff solenoid Volt | : | 12 | |
| Del. quantity cm3/1000 strokes | | 1 | Rated speed rpm Aneroid pressure | : | 800 | |
| Tolerance cm3/1000 strokes | | ‡ | hPa Del. quantity | : | 1000 | |
| Check tolerance cm3/1000s. | : 6.0 | + | cm3/1000 strokes Tolerance | | 42.0 | |
| Shutoff solenoid Volt | : 12 | + | cm3/1000 strokes Check tolerance | : | 0.2 | |
| Rated speed rpm | : 2350 | + | cm3/1000S. Shutoff solenoid Volt | : | 3.0 12 | |
| Aneroid pressure hPa Del. quantity | : 1000 | Ī | VOLE | • | 12 | |
| cm3/1000 strokes Tolerance | : 1.5 | + | ELECTR. SHUTOFF | | ······ | |
| cm3/1000 strokes Check tolerance | | ‡ | CONTROL LEVER, ID | LE S | | |
| cm3/1000s. Shutoff solenoid | : 1.5 | + | Rated speed rpm Del. quantity | : | 500 | |
| Volt | : 12 | + | cm3/1000 strokes Tolerance | | 1.5 | |
| Rated speed rpm | : 1000 | + | cm3/1000 strokes | : | 1.5 | |

| Check tolerance | | † Shutoff solenoid |
|--|----------------|--|
| cm3/1000s. | : 1.5 | † Volt : 12 |
| Spread cm3/1000 strokes | : 5.0 | + PRESSURE DIFFERENCE |
| CIIDY TOOO SELOKES | . ,,,, | T FRESSORE DIFFERENCE |
| FULL-LOAD STOP CO | ONTROL LEVER | Rated speed rpm : 1500 |
| | | Supply pomp |
| Rated speed rpm | : 500 | + pressure bar : -1.5 |
| Del. quantity cm3/1000 strokes | : 1.5 | + Tolerance hPa : 0.3 + Shutoff solenoid |
| Tolerance | . ,,,, | + Volt : 12 |
| cm3/1000 strokes | : 1.5 | + |
| Spread | 5 0 | † TIMING-DEVICE TRAVEL DIFFERENCE |
| cm3/1000 strokes Check tolerance | : 5.0 | Rated speed rpm : 1500 |
| cm3/1000s. | : 1.5 | + Tolerance mm : 0.6 |
| Spread | | + Check |
| cm3/1000 strokes | : 5.0 | tolerance mm : 0.6 |
| | | + Shutoff solenoid |
| | | + Volt : 12 |
| | | $\prod_{i=1}^{n}$ |
| | | + START TRANSITION |
| CHECKTHIC LOAD DEE | CALCENT | Detect aread area in inc |
| CHECKING LOAD-DEF START OF DELIVERY | | + Rated speed rpm : 480 + Del. quantity |
| START OF DECIVER | | - cm3/1000 strokes : 30.0 |
| DELIVERY DIFFEREN | ICE | + Tolerance |
| | 4500 | + cm3/1000 strokes : 10.0 |
| Rated speed rpm Del. quantity | : 1500 | + Shutoff solenoid + Volt : 12 |
| cm3/1000 strokes | : -8.0 | T VOCE . 12 |
| Tolerance | | + |
| cm3/1000 strokes | : 3.0 | + Rated speed rpm : 300 |
| Check tolerance | : 5.0 | + Del. quantity |
| cm3/1000S. Shutoff solenoid | : 5.0 | + cm3/1000 strokes : 63.0 + Tolerance |
| Volt | : 12 | + cm3/1000 strokes : 15.0 |
| | | + Shutoff solenoid |
| TIMING-DEVICE TRA | VEL DIFFERENCE | + Volt : 12 |
| Rated speed rpm | : 1500 | İ |
| Del. quantity | . 1500 | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| cm3/1000 strokes | : -1.8 | + |
| Tolerance | . 0.4 | † 100/ |
| cm3/1000 strokes Check tolerance | : 0.1 | + LDA/ + HBA stroke mm : 5.3 |
| cm3/1000S. | : 0.1 | Dimension K mm : 2,8 |
| Shutoff solenoid | | + Tolerance mm : +-0,1 |
| Volt | : 12 | Dimension KF mm : 8,4 |
| DELIVERY DIFFEREN | re | Tolerance mm : +-0,2 MS1 dimension mm : 1,8 |
| ACCTACIVE ATLUCIMENT | ~ _ | Tolerance mm : +0,15/0,1 |
| Rated speed rpm | : 1500 | + KSB travel mm : 10,0 |
| Del. quantity | | TLA travel mm : 2,5 |
| cm3/1000 strokes Tolerance | : 5.0 | Ī |
| cm3/1000 strokes | : 3.0 | 4 |
| Check tolerance | | CONTROL LEVER POSITION |
| cm3/1000s. | : 3.0 | + SET |
| *2/ | | |

Control lever position YA mm

: 42,8..45,8

Control lever position YB mm : 59,5..71,5

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.06.96 Test oil : ISO 4113

Part no. : 0 460 414 154 Pump designation : VE4/11F2000R711

Customer-spec. information Customer : OTOSAN Motor : 2.5L-DITC Power KW : 74.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 114

Opening pressure

bar : 207 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,62 Tolerance mm : +-0,5

Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

hPa : 1000

Setting mm : 3.2 Tolerance mm : 0.3

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250
Aneroid pressure

hPa : 1000

Setting hPa : 7.0 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 800

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 strokes : 0.2

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 29.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

Check tolerance cm3/1000s. : 4.0

IDLE SETTING

Rated speed rpm : 425

D28

| Del. quantity | | + Rated speed rpm | : 1500 | |
|--|--|---|---|-------------------------------|
| cm3/1000 strokes Tolerance | : 7.7 | + Del. quantity + cm3/1000 strokes | : -1. | .8 |
| cm3/1000 strokes | : 1.0 | + Tolerance | | |
| Shutoff solenoid Volt | : 12 | cm3/1000 strokes Shutoff solenoid | | |
| Spread cm3/1000 strokes | : 3.0 | † Volt | : 1 | 12 |
| Check tolerance | | | | |
| cm3/1000s. | : 4.0 | INJECTION-PUMP TE | ST SPECIF | CATIONS |
| | | TIMING DEVICE CHA | NRACTERIST | C |
| FULL-LOAD SPEED F | REGULATION | Pated speed ppm | : 1500 | |
| Rated speed rpm | : 2200 | + Rated speed rpm + Aneroid pressure | . 1500 | |
| Pressure hPa | : 1000 | + hPa | : 100 | 00 |
| Del. quantity | | + Tolerance mm | : 0. | 4 |
| cm3/1000 strokes | : 17.8 | + Check | • | • |
| Tolerance cm3/1000 strokes | : 1.0 | tolerance mm Shutoff solenoid | : 0. | .9 |
| Shutoff solenoid | . 1.0 | + Volt | . 1 | 2 |
| Volt | : 12 | + | • | _ |
| | | + Rated speed rpm | : 1000 | |
| STARTING FUEL DEL | .IVERY | + Aneroid pressure | | _ |
| Oated award was | 100 | † hPa | : 100 | 00 |
| Rated speed rpm Del. quantity | : 100 | SV travel mm | : 1. | ٥ |
| cm3/1000 strokes | : 80.0 | Tolerance mm | : o. | |
| Tolerance | . 33.3 | Check | | • |
| cm3/1000 strokes | : 20.0 | † tolerance mm | : 0. | 9 |
| Shutoff solenoid | | → Shutoff solenoid | | |
| | 4.6 | | | |
| Volt | : 12 | Volt | : 1 | 2 |
| | : 12 | | | |
| Volt | | Volt SUPPLY PUMP PRESS | URE CHARAC | |
| | | + Volt | URE CHARAC | |
| Volt LOAD-DEPENDENT ST SETTING | ART OF DELIVERY | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa | URE CHARAC | TERISTIC |
| Volt LOAD-DEPENDENT ST | ART OF DELIVERY | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp | : 2000 | TERISTIC |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN | ART OF DELIVERY | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar | : 2000 : 100 | TERISTIC 00 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm | ART OF DELIVERY | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa | : 2000 | TERISTIC 00 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN | CART OF DELIVERY CE 1500 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar | : 2000 : 100 : 9. | TERISTIC 00 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | CART OF DELIVERY CCE : 1500 : -5.6 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt | : 2000 : 100 : 9. : 0. | TERISTIC 90 2 3 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | CART OF DELIVERY CCE : 1500 : -5.6 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm | : 2000 : 100 : 9. : 0. | TERISTIC 90 2 3 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFERENT Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | TART OF DELIVERY CE : 1500 : -5.6 : 1.0 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure | : 2000 : 100 : 9. : 0. : 1 | TERISTIC 0 2 3 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | CART OF DELIVERY CCE : 1500 : -5.6 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | : 2000 : 100 : 9. : 0. | TERISTIC 0 2 3 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFERENT Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | CE: 1500: -5.6: 1.0: 12 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure | : 2000 : 100 : 9. : 0. : 1 | TERISTIC 2 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN | CE: 1500: -5.6: 1.0: 12 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa | : 2000 : 2000 : 100 : 9. : 0. : 1 | TERISTIC 2 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm | CE: 1500: -5.6: 1.0: 12 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp Supply pomp pressure bar Tolerance hPa Shutoff solenoid | : 2000 : 100 : 9. : 0. : 1000 : 1000 : 6. : 0. | TERISTIC 2 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Del. quantity | CE: 1500: 12: 1500 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa | : 2000 : 100 : 9. : 0. : 1000 : 1000 : 6. | TERISTIC 2 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes | CE: 1500: 12: 1500 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt | : 2000 : 2000 : 100 : 9. : 0. : 1000 : 1000 : 6. : 0. | TERISTIC 2 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Del. quantity | ART OF DELIVERY CE : 1500 : -5.6 : 1.0 : 12 CE : 1500 : -0.2 | Volt SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp Supply pomp pressure bar Tolerance hPa Shutoff solenoid | : 2000 : 2000 : 100 : 9. : 0. : 1000 : 1000 : 6. : 0. | TERISTIC 2 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | ART OF DELIVERY CE : 1500 : -5.6 : 1.0 : 12 CE : 1500 : -0.2 : 0.1 | SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm | : 2000 : 2000 : 100 : 9. : 0. : 1000 : 1000 : 6. : 0. | TERISTIC 2 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | ART OF DELIVERY CE : 1500 : -5.6 : 1.0 : 12 CE : 1500 : -0.2 | SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Aneroid pressure | : 2000 : 2000 : 100 : 9. : 0. : 1000 : 1000 : 6. : 0. | TERISTIC 2 3 2 0 5 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | TART OF DELIVERY TOE : 1500 : -5.6 : 1.0 : 12 CE : 1500 : -0.2 : 0.1 : 12 | Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Aneroid pressure hPa | : 2000 : 100 : 9. : 0. : 1000 : 1000 : 1000 : 1000 : 1000 : 1000 : 1000 | TERISTIC 2 3 2 0 5 3 2 |
| LOAD-DEPENDENT ST SETTING DELIVERY DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt PRESSURE DIFFEREN Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | TART OF DELIVERY TOE : 1500 : -5.6 : 1.0 : 12 CE : 1500 : -0.2 : 0.1 : 12 | SUPPLY PUMP PRESS Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa Supply pomp pressure bar Tolerance hPa Supply pomp pressure bar Tolerance hPa Shutoff solenoid Volt OVERFLOW QUANTITY Rated speed rpm Aneroid pressure | : 2000 : 100 : 9. : 0. : 1000 : 1000 : 1000 : 1000 : 1000 : 1000 : 1000 | TERISTIC 2 3 2 0 5 3 2 |

| Tolerance ccm/10s | : 22.2 | | Aneroid pressure hPa | : | 450 | |
|--|----------------------|-----|--------------------------------------|---------------|------|--|
| Check tolerance ccm/10s Shutoff solenoid | : 22.2 | + 1 | LDA/ HBA stroke mm | : | 5.3 | |
| Volt | : 12 | + | Del. quantity cm3/1000 strokes | : | 35.0 | |
| Rated speed rpm | : 1950 | + | Tolerance cm3/1000 strokes | : | 0.5 | |
| Aneroid pressure hPa | : 1000 | + | Check tolerance cm3/1000s. | : | 3.0 | |
| Overflow quantity ccm/10s | : 152.7 | | Shutoff solenoid Volt | : | 12 | |
| Tolerance ccm/10s | : 41.6 | | Rated speed rpm Aneroid pressure | : | 1950 | |
| Check tolerance ccm/10s | : 41.6 | + 1 | hPa Del. quantity | : | 1000 | |
| Shutoff solenoid Volt | : 12 | + 1 | cm3/1000 strokes Tolerance | : | 42.0 | |
| | KAWAY CHARACTERISTIC | + , | cm3/1000 strokes Check tolerance | : | 1.2 | |
| Rated speed rpm | : 2200 | + , | cm3/1000s. Shutoff solenoid | : | 2.5 | |
| Aneroid pressure hPa | : 1000 | + ' | Volt | : | 12 | |
| Del. quantity cm3/1000 strokes | | | Rated speed rpm Aneroid pressure | : | 1750 | |
| Tolerance cm3/1000 strokes | : 1.0 | | hPa Del. quantity | : | 1000 | |
| Check tolerance cm3/1000s. | : 5.0 | + (| cm3/1000 strokes Tolerance | : | 42.0 | |
| Shutoff solenoid Volt | : 12 | | cm3/1000 strokes Check tolerance | : | 1.2 | |
| Rated speed rpm | : 2150 | | cm3/1000s. Shutoff solenoid | : | 2.5 | |
| Aneroid pressure hPa | : 1000 | (| Volt | : | 12 | |
| Del. quantity cm3/1000 strokes | | | Rated speed rpm Aneroid pressure | : | 800 | |
| Tolerance cm3/1000 strokes | | + + | nPa Del. quantity | : | 1000 | |
| Check tolerance cm3/1000s. | : 6.0 | | cm3/1000 strokes Tolerance | : | 42.0 | |
| Shutoff solenoid Volt | : 12 | + (| cm3/1000 strokes Check tolerance | : | 0.2 | |
| Rated speed rpm | : 2350 | + 5 | cm3/1000S. Shutoff solenoid | : | 3.0 | |
| Aneroid pressure hPa | : 1000 | ‡ ' | /olt | : | 12 | |
| Del. quantity cm3/1000 strokes | : 1.5 | ‡ - | | - | | |
| Tolerance cm3/1000 strokes | : 1.5 | | ELECTR. SHUTOFF CONTROL LEVER, ID | LE S | TOP | |
| Check tolerance cm3/1000s. | : 1.5 | | Rated speed rpm | : | 500 | |
| Shutoff solenoid Volt | : 12 | + 0 | Del. quantity cm3/1000 strokes | : | 1.5 | |
| Rated speed rpm | : 1000 | | rolerance cm3/1000 strokes | : | 1.5 | |

| Check tolerance cm3/1000s. | : 1.5 | + Shutoff solenoid + Volt | : 12 |
|-------------------------------------|--------------|--|-------------------------------|
| Spread cm3/1000 strokes | : 5.0 | PRESSURE DIFFEREN | ICE |
| FULL-LOAD STOP CO | ONTROL LEVER | Rated speed rpm | : 1500 |
| Rated speed rpm Del. quantity | : 500 | + Supply pomp + pressure bar + Tolerance hPa | : -1.5 : 0.3 |
| cm3/1000 strokes Tolerance | : 1.5 | Shutoff solenoid Volt | : 12 |
| cm3/1000 strokes Spread | : 1.5 | TIMING-DEVICE TRA | |
| cm3/1000 strokes Check tolerance | : 5.0 | + | |
| cm3/1000s. Spread | : 1.5 | Rated speed rpm Tolerance mm Check | |
| cm3/1000 strokes | : 5.0 | tolerance mm Shutoff solenoid | : 0.6 |
| | | Volt | : 12 |
| | | START TRANSITION | |
| CHECKING LOAD-DEF | | Rated speed rpm Del. quantity | : 480 |
| DELIVERY DIFFEREN | | cm3/1000 strokes Tolerance | : 30.0 |
| Rated speed rpm | | cm3/1000 strokes Shutoff solenoid | : 10.0 |
| Del. quantity cm3/1000 strokes | | + Volt | : 12 |
| Tolerance cm3/1000 strokes | : 3.0 | + Rated speed rpm | : 300 |
| Check tolerance cm3/1000s. | : 5.0 | Del. quantity cm3/1000 strokes | |
| Shutoff solenoid | | + Tolerance | |
| Volt | : 12 | + cm3/1000 strokes + Shutoff solenoid | |
| TIMING-DEVICE TRA | | + Volt | : 12 |
| Rated speed rpm Del. quantity | | ASSEMBLY AND ADJU | STMENT DIMENSIONS |
| cm3/1000 strokes Tolerance | : -1.8 | ‡ | |
| cm3/1000 strokes Check tolerance | : 0.1 | LDA/ HBA stroke mm | : 5.3 |
| cm3/1000s. Shutoff solenoid | : 0.1 | Dimension K mm Tolerance mm | : 2,8 : + - 0,1 |
| Volt | : 12 | Dimension KF mm Tolerance mm | : 8,4 : +-0,2 |
| DELIVERY DIFFEREN | CE | MS1 dimension mm Tolerance mm | : 1,8 : +0,15/-0,1 |
| Rated speed rpm Del. quantity | : 1500 | ‡ | -,, |
| cm3/1000 strokes Tolerance | : 5.0 | CONTROL LEVER POS | ITION |
| cm3/1000 strokes Check tolerance | : 3.0 | SET | |
| cm3/1000s. | : 3.0 | + | |
| | | | |

Control lever position YA mm : 42,8..45,8

Control lever position YB mm : 59,5..71,5

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.02.94 Test oil : ISO 4113

Part no. : 0 460 484 061 Pump designation : VE4/8F2300R317-6

Customer-spec. information
Customer : RENAULT
Motor : F8Q - 706 CA
Power KW : 47.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.4
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 4.7 Tolerance hPa : 0.3 Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250
Del. quantity
cm3/1000 strokes : 31.5
Tolerance
cm3/1000 strokes : 0.5
Spread
cm3/1000 strokes : 2.5

Shutoff solenoid Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 550 Del. quantity

cm3/1000 strokes : 3.0 Tolerance

cm3/1000 strokes : 2.0 Shutoff solenoid

Volt : 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450

Del. quantity

cm3/1000 strokes : 26.0

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : 15.0

| Shutoff solenoid | | | + | | | | |
|----------------------------------|--------|---------------|-----|------------------------------|-----|----------------|---|
| Volt | : | 12 | + | Rated speed rpm | : | 310 | |
| | | | † | CVI through man | _ | 2.2 | |
| | | | Ī | SV travel mm Tolerance mm | : | 2.2 1.2 | |
| LOAD-DEPENDENT ST | TART | OF DELIVERY | I | Check | • | 1.2 | |
| SETTING | i Alvi | OI DEETVENT | 1 | tolerance mm | • | 1.2 | |
| 0211110 | | | 1 | Shutoff solenoid | • | | |
| DELIVERY DIFFEREN | VCE | | 1 | Volt | : | 12 | |
| | | | + | | | | |
| Rated speed rpm | : | 1250 | + | KSB/AFB Volt | : | 12 | |
| Del. quantity | | 44.5 | + | | | | |
| cm3/1000 strokes | : | -11.5 | † | Rated speed rpm | : | 500 | |
| Tolerance cm3/1000 strokes | | 1.0 | † | SV travel mm | | 3.4 | |
| Shutoff solenoid | • | 1.0 | Ī | Tolerance mm | • | 1.2 | |
| Volt | • | 12 | I | Check | • | 1.2 | |
| 1011 | • | 16 | 1 | tolerance mm | • | 1.2 | |
| PRESSURE DIFFEREN | VCE | | 1 | Shutoff solenoid | • | | |
| | | | + | Volt | : | 12 | |
| Rated speed rpm | : | 1250 | + | | | | |
| Del. quantity | | | + | KSB/AFB Volt | : | 12 | |
| cm3/1000 strokes | : | -0.2 | + | | | | _ |
| Tolerance | | 0.4 | + | SUPPLY PUMP PRESS | JRE | CHARACTERISTIC | |
| cm3/1000 strokes | : | 0.1 | † | Data dana da ana | _ | 2000 | |
| Shutoff solenoid Valt | | 12 | † | Rated speed rpm | : | 2000 | |
| VOLE | • | 12 | I | Supply pomp pressure bar | | 6.6 | |
| TIMING-DEVICE TRA | MEI | DIFFERENCE | Ι | Tolerance hPa | : | 0.3 | |
| TENTING PEATOR THA | 1022 | DITTENDITOR | I | Shutoff solenoid | • | 0.5 | |
| Rated speed rpm | : | 1250 | 1 | Volt | : | 12 | |
| Del. quantity | | | 1 | | | | |
| cm3/1000 strokes | : | -0.5 | + | Rated speed rpm | : | 750 | |
| Tolerance | | | + | Supply pomp | | | |
| cm3/1000 strokes | : | 0.1 | + | pressure bar | : | 3.4 | |
| Shutoff solenoid | | 42 | † | Tolerance hPa | : | 0.3 | |
| Volt | : | 12 | † | Shutoff solenoid | | 12 | |
| | | | _ I | Volt | • | 12 | |
| INJECTION-PUMP TE | ST S | PECTETCATTONS | I | OVERFLOW QUANTITY | | | |
| 1140 2 0 1 1 0 1 1 1 1 1 | .01 0 | LCITICATIONS | 1 | OVERTED WOMITTI | | | |
| TIMING DEVICE CHA | RACT | ERISTIC | 1 | Rated speed rpm | : | 2250 | |
| | | | + | Overflow quantity | | | |
| Rated speed rpm | : | 2000 | + | ccm/10s | : | 97.2 | |
| | | | + | Tolerance | | | |
| SV travel mm | : | 6.2 | † | ccm/10s | : | 41.6 | |
| Tolerance mm | : | 0.4 | † | | | | |
| Check | | 0.7 | † | Check tolerance ccm/10s | | 41.6 | |
| tolerance mm Shutoff solenoid | • | 0.7 | Ī | Shutoff solenoid | • | 41.0 | |
| Volt | | 12 | I | Volt | • | 12 | |
| | • | ٠ | 1 | | - | | |
| Rated speed rpm | : | 750 | + | Rated speed rpm | : | 750 | |
| • • • | | | + | Overflow quantity | | | |
| SV travel mm | : | 1.5 | + | ccm/10s | : | 63.8 | |
| Tolerance mm | : | 0.4 | + | Tolerance | | 22.2 | |
| Check | | 0.7 | † | ccm/10s | : | 22.2 | |
| tolerance mm | | 11 / | +- | | | | |
| Churches not anneal | : | 0.7 | } | Chack talaransa | | | |
| Shutoff solenoid Volt | : | 12 | 1 | Check tolerance ccm/10s | | 22.2 | |

| Shutoff solenoid Volt | : 12 | + Shutoff solenoid + Volt : 12 |
|-------------------------------------|-----------------------|---|
| DELIVERY AND BREA | AKAWAY CHARACTERISTIC | Rated speed rpm : 750 |
| Rated speed rpm Del. quantity | : 2450 | + Del. quantity + cm3/1000 strokes : 31.6 + Tolerance |
| cm3/1000 strokes Tolerance | : 26.0 | cm3/1000 strokes : 1.5 Check tolerance |
| cm3/1000 strokes Check tolerance | : 3.0 | + cm3/1000s. : 2.3 + Shutoff solenoid |
| cm3/1000s. Shutoff solenoid | : 4.0 | Volt : 12 |
| Volt | : 12 | Rated speed rpm : 1250 Del. quantity |
| Rated speed rpm Del. quantity | : 2650 | cm3/1000 strokes : 31.5 + Tolerance |
| cm3/1000 strokes Check tolerance | : 11.0 | cm3/1000 strokes : 0.5 Check tolerance |
| cm3/1000s. Shutoff solenoid | : 5.0 | cm3/1000s. : 2.3 Shutoff solenoid |
| Volt | : 12 | + Volt : 12 |
| Rated speed rpm Del. quantity | : 2950 | |
| cm3/1000 strokes Tolerance | : 2.5 | + ELECTR. SHUTOFF + CONTROL LEVER, IDLE STOP |
| cm3/1000 strokes Check tolerance | | + Rated speed rpm : 410 |
| cm3/1000s. Shutoff solenoid | : 2.5 | Del. quantity cm3/1000 strokes : 1.5 |
| Volt | : 12 | Tolerance + cm3/1000 strokes : 1.5 |
| Rated speed rpm Del. quantity | : 2250 | + Check tolerance + cm3/1000s. : 1.5 |
| cm3/1000 strokes Tolerance | : 32.5 | + Spread - cm3/1000 strokes : 5.0 |
| cm3/1000 strokes Check tolerance | | ‡ |
| cm3/1000s. Shutoff solenoid | : 2.3 | ‡ |
| Volt | : 12 | ‡ |
| Rated speed rpm Del. quantity | : 1625 | CHECKING LOAD-DEPENDENT |
| cm3/1000 strokes Tolerance | | + START OF DELIVERY |
| cm3/1000 strokes Check tolerance | | + DELIVERY DIFFERENCE |
| cm3/1000s. Shutoff solenoid | : 2.3 | + Rated speed rpm : 1250 + Del. quantity |
| Volt | : 12 | - cm3/1000 strokes : -15.2 - Tolerance |
| Rated speed rpm Del. quantity | | cm3/1000 strokes : 2.0 Check tolerance |
| cm3/1000 strokes Tolerance | | + cm3/1000s. : 2.0 + Shutoff solenoid |
| cm3/1000 strokes Check tolerance | | + Volt : 12 |
| cm3/1000s. | : 2.3 | † TIMING-DEVICE TRAVEL DIFFERENCE |

| Rated speed rpm | : | 1250 | |
|--|------|----------------|--|
| Del. quantity cm3/1000 strokes | : | -0.5 | |
| Tolerance cm3/1000 strokes | : | 0.1 | |
| Check tolerance cm3/1000s. | : | 0.1 | |
| Shutoff solenoid Volt | : | 12 | |
| DELIVERY DIFFEREN | CE | | |
| Rated speed rpm | : | 1250 | |
| Del. quantity cm3/1000 strokes | : | 5.0 | |
| Tolerance cm3/1000 strokes | : | 3.0 | |
| Check tolerance cm3/1000s. | : | 3.0 | |
| Shutoff solenoid Volt | : | 12 | |
| | | _ | |
| TIMING-DEVICE TRA | VEL | DIFFERENCE | |
| Rated speed rpm Tolerance mm Check | : | 1250 0.2 | |
| tolerance mm | : | 0.3 | |
| Shutoff solenoid Volt | : | 12 | |
| START TRANSITION | | | |
| STAKE EMMOTITOR | | | |
| Rated speed rpm Del. quantity | : | 310 | |
| cm3/1000 strokes Tolerance | : | 30.0 | |
| cm3/1000 strokes Shutoff solenoid | : | 15.0 | |
| Volt | : | 12 | |
| Rated speed rpm | : | 210 | |
| Del. quantity cm3/1000 strokes | : | 60.0 | |
| Tolerance cm3/1000 strokes | • | 15.0 | |
| Shutoff solenoid | • | 12 | |
| VOLE | • | 16 | |
| ASSEMBLY AND ADJUS | STME | ENT DIMENSIONS | |

Tolerance mm : +-0,2

MICROSWITCH

SET

: 0,8..3,0 : 7,5..8,5 mm

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 32,6..36,6

Control lever

position YB mm : 65,7..78,3

End of test-specification sheet

E08

Dimension K mm : 3,3 Tolerance mm : +-0,1

Dimension KF mm : 5,5
Tolerance mm : +0,2

Dimension MS mm

: 1,3

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.07.96 Edition Test oil : ISO 4113

: 0 460 484 129 Part no. Pump designation: VE4/8F2300R317-9

Customer-spec. information : RENAULT Customer

: F8Q - 706 CA Motor 45.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

restriction mm 0.55

0.35 Inlet press. bar : Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

2.00 x inside diameter : x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 3.4 Tolerance mm 0.2 Shutoff solenoid 12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1250 :

Setting hPa 4.7 Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 31.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5 Shutoff solenoid

Volt

12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

550 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 3.0 Tolerance

cm3/1000 strokes : 2.0 Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450

Del. quantity

cm3/1000 strokes : 26.0

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt 12

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : 15.0

| Shutoff solenoid Volt | | 12 | 1 | Rated speed rpm | | 310 |
|--------------------------------|------|----------------|---------------|-----------------------------------|-----|----------------|
| VOCC | • | 12 | Ţ | Nated Speed 1 pill | • | 310 |
| | | | + | SV travel mm | : | 2.2 |
| LOAD DEDENIDENT CT | FADT | OF NELTWERY | † | Tolerance mm | : | 1.2 |
| LOAD-DEPENDENT ST SETTING | ARI | OF DELIVERY | I | Check tolerance mm | : | 1.2 |
| 52112113 | | | + | Shutoff solenoid | • | |
| DELIVERY DIFFEREN | 1CE | | + | Volt | : | 12 |
| Rated speed rpm | : | 1250 | Í | KSB/AFB Volt | | 12 |
| Del. quantity | • | 1250 | 1 | NODI AID VOCE | • | 12 |
| cm3/1000 strokes | : | -11.5 | + | Rated speed rpm | : | 500 |
| Tolerance cm3/1000 strokes | | 1.0 | † | SV travel mm | | 3.4 |
| Shutoff solenoid | • | 1.0 | I | Tolerance mm | : | 1.2 |
| Volt | : | 12 | + | Check | | _ |
| DDECOURT ATTECT | | | † | tolerance mm | : | 1.2 |
| PRESSURE DIFFEREN | IUE | | 1 | Shutoff solenoid Volt | • | 12 |
| Rated speed rpm | ; | 1250 | Į | 7000 | • | , , |
| Del. quantity | | | + | KSB/AFB Volt | : | 12 |
| cm3/1000 strokes | : | -0.2 | † | SUPPLY PUMP PRESS | HDE | CUADACTEDISTIC |
| Tolerance cm3/1000 strees | : | 0.1 | I | SUFFLI FUMF FRESS | UKE | CHARACTERISTIC |
| Shutoff solemist | · | | + | Rated speed rpm | : | 2000 |
| Volt | : | 12 | + | Supply pomp | _ | |
| TIMING-DEVICE TRA | VE! | DIFFERENCE | Ī | pressure bar Tolerance hPa | : | 6.6 0.3 |
| THING DEVICE THA | VLL | DITTERLINGE | + | Shutoff solenoid | • | 0.3 |
| Rated speed rpm | : | 1250 | + | Volt | : | 12 |
| Del. quantity cm3/1000 strokes | | -0.5 | 1 | Rated speed rpm | : | 750 |
| Tolerance | • | 0.5 | 1 | Supply pomp | • | 130 |
| cm3/1000 strokes | : | 0.1 | + | pressure bar | : | 3.4 |
| Shutoff solenoid | | 12 | † | Tolerance hPa Shutoff solenoid | : | 0.3 |
| Volt | • | 12 | I | Volt | : | 12 |
| | | | + | | | |
| INJECTION-PUMP TE | ST | SPECIFICATIONS | † | OVERFLOW QUANTITY | | |
| TIMING DEVICE CHA | RΔC. | TERISTIC | I | Rated speed rpm | : | 2250 |
| LILITING PEATOR CHY | MAG | TENTOTIC | 1 | Overflow quantity | | 2230 |
| Rated speed rpm | : | 2000 | + | ccm/10s | : | 97.2 |
| CV description | | 6.2 | † | Tolerance ccm/10s | : | 41.6 |
| SV travel mm Tolerance mm | : | 0.4 | Į | CCIII/ TUS | • | 41.0 |
| Check | • | | + | Check tolerance | | |
| tolerance mm | : | 0.7 | † | ccm/10s | : | 41.6 |
| Shutoff solenoid Volt | : | 12 | Ī | Shutoff solenoid Volt | • | 12 |
| VOCC | • | 12 | | | • | |
| Rated speed rpm | : | 750 | + | Rated speed rpm | : | 750 |
| SV though me | | 1.5 | 1 | Overflow quantity ccm/10s | | 63.8 |
| SV travel mm Tolerance mm | : | 0.4 | I | Tolerance | • | 05.0 |
| Check | - | | + | ccm/10s | : | 22.2 |
| tolerance mm | : | 0.7 | † | Chark talarana | | |
| Shutoff solenoid Volt | • | 12 | I | Check tolerance ccm/10s | : | 22.2 |
| , , , , | • | , _ | ' | · | ٠ | · - |
| | | | | | | |

| Shutoff solenoid Volt : | 12 ‡ | Shutoff solenoid Volt | : 12 |
|---------------------------------------|----------------|---------------------------------------|---------------|
| DELIVERY AND BREAKAWAY | CHARACTERISTIC | Rated speed rpm Del. quantity | : 750 |
| Rated speed rpm : 2 Del. quantity | 450 | cm3/1000 strokes Tolerance | : 31.6 |
| cm3/1000 strokes : Tolerance | 26.0 | cm3/1000 strokes Check tolerance | : 1.5 |
| cm3/1000 strokes : Check tolerance | 3.0 | cm3/1000s. Shutoff solenoid | : 2.3 |
| cm3/1000s. : Shutoff solenoid | 4.0 | Volt | : 12 |
| Volt : | 12 | Rated speed rpm Del. quantity | : 1250 |
| Rated speed rpm : 2 Del. quantity | 650 | cm3/1000 strokes Tolerance | : 31.5 |
| cm3/1000 strokes : Check tolerance | 11.0 | cm3/1000 strokes Check tolerance | : 0.5 |
| cm3/1000s. : Shutoff solenoid | 5.0 | cm3/1000s. Shutoff solenoid | : 2.3 |
| Volt : | 12 | Volt | : 12 |
| Rated speed rpm : 2 Del. quantity | 950 | | |
| cm3/1000 strokes : Tolerance | 2.5 | ELECTR. SHUTOFF CONTROL LEVER, IDL | LE STOP |
| cm3/1000 strokes : Check tolerance | 2.5 | Rated speed rpm | |
| cm3/1000s. : Shutoff solenoid | 2.5 | Del. quantity cm3/1000 strokes | |
| Volt : | 12 | Tolerance cm3/1000 strokes | : 1.5 |
| Rated speed rpm : 2 Del. quantity | 250 | Check tolerance cm3/1000s. | : 1.5 |
| cm3/1000 strokes : Tolerance | 32.5 | Spread cm3/1000 strokes | : 5.0 |
| cm3/1000 strokes : Check tolerance | 1.0 | | |
| cm3/1000S. : Shutoff solenoid | 2.3 | | |
| Volt : | 12 | | |
| Del. quantity | 625 | CHECKING LOAD-DEPE | NDENT |
| cm3/1000 strokes : Tolerance | 31.2 | START OF DELIVERY | |
| cm3/1000 strokes : Check tolerance | 1.5 | DELIVERY DIFFERENC | |
| cm3/1000S. : Shutoff solenoid | 2.3 | Rated speed rpm Del. quantity | |
| Volt : | 12 | cm3/1000 strokes Tolerance | |
| Del. quantity | 000 + | cm3/1000 strokes Check tolerance | |
| cm3/1000 strokes : Tolerance | 31.3 | cm3/1000S. Shutoff solenoid | : 2.0 |
| cm3/1000 strokes : Check tolerance | 1.0 | Volt | : 12 |
| cm3/1000s. : | 2.3 + | TIMING-DEVICE TRAV | EL DIFFERENCE |

| Rated speed rpm | : | 1250 | |
|---------------------------------------|-----|-------------|--|
| Del. quantity cm3/1000 strokes | : | -0.5 | |
| Tolerance cm3/1000 strokes | : | 0.1 | |
| Check tolerance cm3/1000s. | : | 0.1 | |
| Shutoff solenoid Volt | : | 12 | |
| DELIVERY DIFFEREN | | | |
| | | | |
| Rated speed rpm Del. quantity | : | 1250 | |
| cm3/1000 strokes Tolerance | : | 5.0 | |
| cm3/1000 strokes Check tolerance | : | 3.0 | |
| cm3/1000S. Shutoff solenoid | : | 3.0 | |
| Volt | : | 12 | |
| TIMING-DEVICE TRA | VEL | DIFFERENCE | |
| Rated speed rpm | : | 1250 | |
| SV travel mm Tolerance mm Check | : | -0.5 0.2 | |
| tolerance mm Shutoff solenoid | : | 0.3 | |
| Volt | : | 12 | |
| START TRANSITION | | | |
| Rated speed rpm | : | 310 | |
| Del. quantity cm3/1000 strokes | : | 30.0 | |
| Tolerance cm3/1000 strokes | : | 15.0 | |
| Shutoff solenoid Volt | : | 12 | |
| | · | | |
| Rated speed rpm | : | 210 | |
| Del. quantity cm3/1000 strokes | : | 60.0 | |
| Tolerance cm3/1000 strokes | : | 15.0 | |
| Shutoff solenoid Volt | : | 12 | |
| ACCEMBLY AND ADDITE | | | |

| | | | |
|----------|-----|------------|-------------|
| ASSEMBLY | AND | ADJUSTMENT | DIMENSIONS |

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,5

Tolerance mm : +-0,2 Dimension MS mm : 1,3 Tolerance mm : +-0,2

MICROSWITCH

SET

: 0,8...3,0 : 7,5..8,5 mm

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.03.94 Edition : ISO 4113 Test oil

Part no. : 0 460 484 059 Pump designation : VE4/8F2300R458-2

Customer-spec. information Customer : RENAULT : F8Q - 706 Motor 45.0 Power KW

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

bar 130 Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 3.4 : Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1250

4.7 Setting hPa : Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 32.1

Tolerance

0.5 cm3/1000 strokes :

Spread

cm3/1000 strokes : 2.5

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 550 Del. quantity

cm3/1000 strokes :

3.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

Rated speed rpm 2450

Del. quantity

cm3/1000 strokes : 28.5

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt 12

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : 15.0

| Shutoff solenoid Volt | : | 12 | † | Rated speed rpm | : | 310 |
|--------------------------------------|------------------|----------------|------------------|--------------------------------------|-----|------------|
| | | | - | SV travel mm Tolerance mm | : | 2.2 1.2 |
| LOAD-DEPENDENT ST SETTING | ART | OF DELIVERY | ‡ | Check tolerance mm | : | 1.2 |
| DELIVERY DIFFEREN | ICE | | Ŧ | Shutoff solenoid Volt | : | 12 |
| Rated speed rpm Del. quantity | : | 1250 | Ī | KSB/AFB Volt | : | 12 |
| cm3/1000 strokes Tolerance | : | -11.5 | 1 | Rated speed rpm | : | 500 |
| cm3/1000 strokes Shutoff solenoid | : | 1.0 | 1 | SV travel mm Tolerance mm | : | 3.4 1.2 |
| Volt | : | 12 | · 1 | Check tolerance mm | • | 1.2 |
| PRESSURE DIFFEREN | ICE | | 1 | Shutoff solenoid Volt | : | 12 |
| Rated speed rpm Del. quantity | : | 1250 | 1 | KSB/AFB Volt | : | 12 |
| cm3/1000 strokes Tolerance | : | -0.2 | ‡ | SUPPLY PUMP PRESS | URE | |
| cm3/1000 strokes Shutoff solenoid | : | 0.1 | <u> </u> | Rated speed rpm | : | 2000 |
| Volt | : | 12 | <u> </u> | Supply pomp pressure bar | : | 6.6 |
| TIMING-DEVICE TRA | VEL | DIFFERENCE | + | Tolerance hPa Shutoff solenoid | : | 0.3 |
| Rated speed rpm Del. quantity | : | 1250 | ‡ | Volt | : | 12 |
| cm3/1000 strokes Tolerance | | -0. 5 | | Rated speed rpm Supply pomp | : | 750 |
| cm3/1000 strokes Shutoff solenoid | : | 0.1 | ‡ | pressure bar Tolerance hPa | : | 3.4 0.3 |
| Volt | : | 12 | ‡ | Shutoff solenoid Volt | : | 12 |
| INJECTION-PUMP TE | ST : | SPECIFICATIONS | | OVERFLOW QUANTITY | | |
| TIMING DEVICE CHA | RAC ⁻ | TERISTIC . | Ī | Rated speed rpm Overflow quantity | : | 2250 |
| Rated speed rpm | : | 2000 | + | ccm/10s Tolerance | : | 97.2 |
| SV travel mm Tolerance mm | : | 6.2 0.4 | + | ccm/10s | : | 41.6 |
| Check tolerance mm | : | 0.7 | ‡ | Check tolerance ccm/10s | : | 41.6 |
| Shutoff solenoid Volt | : | 12 | ‡ | Shutoff solenoid Volt | : | 12 |
| Rated speed rpm | : | 750 | ‡ | Rated speed rpm | : | 750 |
| SV travel mm | : | 1.5 | ‡ | Overflow quantity ccm/10s | : | 63.8 |
| Tolerance mm Check | : | 0.4 | ‡ | Tolerance ccm/10s | : | 22.2 |
| tolerance mm Shutoff solenoid | : | 0.7 | ‡ | Check_tolerance | | |
| Volt | : | 12 | + | ccm/10s | : | 22.2 |

| Shutoff solenoid Volt : | 12 | Shutoff solenoid Volt | 12 |
|--|-----------------|--|--------------|
| DELIVERY AND BREAKAWAY CH | HARACTERISTIC T | Rated speed rpm : Del. quantity | 750 |
| Rated speed rpm : 245 Del. quantity | 50 | cm3/1000 strokes : | 31.7 |
| | 28.5 | cm3/1000 strokes : | 1.5 |
| | 3.0 | cm3/1000s. | 2.3 |
| | 4.0 | Volt : | 12 |
| Volt : | 12 | Rated speed rpm : Del. quantity | 1250 |
| Rated speed rpm : 265 Del. quantity | 50 | cm3/1000 strokes : Tolerance | 32.1 |
| cm3/1000 strokes : 1 Check tolerance | 4.5 | cm3/1000 strokes : | 0.5 |
| | 5.0 | cm3/1000s. : | 2.3 |
| Volt : | 12 | Volt : | 12 |
| Rated speed rpm : 295 Del. quantity | io <u>†</u> | | |
| | 2.5 | ELECTR. SHUTOFF CONTROL LEVER, IDLE | STOP |
| | 2.5 | Rated speed rpm : | |
| cm3/1000s. : Shutoff solenoid | 2.5 | Del. quantity cm3/1000 strokes : | |
| Volt : | 12 | Tolerance cm3/1000 strokes : | |
| Rated speed rpm : 225 Del. quantity | io | Check tolerance cm3/1000s. : | 1.5 |
| | 4.0 | Spread cm3/1000 strokes : | |
| | 1.0 | | |
| | 2.3 | | |
| Volt : | 12 | | |
| Rated speed rpm : 162 Del. quantity | 5 | CHECKING LOAD-DEPEN | DENT |
| | 1.6 | START OF DELIVERY | |
| cm3/1000 strokes : Check tolerance | 1.5 | DELIVERY DIFFERENCE | |
| cm3/1000s. : : : : : : : : : : : : : : : : : : : | 2.3 | Rated speed rpm : Del. quantity | 1250 |
| Volt : | 12 | cm3/1000 strokes : Tolerance | -15.2 |
| Rated speed rpm : 200 Del. quantity | + | cm3/1000 strokes : Check tolerance | |
| | | cm3/1000s. : Shutoff solenoid | 2.0 |
| | | Volt : | 12 |
| | 2.3 | TIMING-DEVICE TRAVE | L DIFFERENCE |

| Rated speed rpm | : | 1250 | |
|-------------------------------------|-----|-------------|--|
| Del. quantity cm3/1000 strokes | : | -0.5 | |
| Tolerance cm3/1000 strokes | : | 0.1 | |
| Check tolerance cm3/1000s. | : | 0.1 | |
| Shutoff solenoid Volt | : | 12 | |
| DELIVERY DIFFEREN | ICE | | |
| Rated speed rpm Del. quantity | : | 1250 | |
| cm3/1000 strokes Tolerance | : | 5.0 | |
| cm3/1000 strokes Check tolerance | : | 3.0 | |
| cm3/1000s. | : | 3.0 | |
| Shutoff solenoid Volt | : | 12 | |
| TIMING-DEVICE TRA | VEL | DIFFERENCE | |
| Rated speed rpm | : | 1250 | |
| SV travel mm Tolerance mm | : | -0.5 0.2 | |
| Check tolerance mm | : | 0.3 | |
| Shutoff solenoid Volt | : | 12 | |
| START TRANSITION | | | |
| Rated speed rpm | : | 310 | |
| Del. quantity cm3/1000 strokes | : | 30.0 | |
| Tolerance cm3/1000 strokes | : | 15.0 | |
| Shutoff solenoid Volt | : | 12 | |
| | | | |
| Rated speed rpm Del. quantity | : | 210 | |
| cm3/1000 strokes | | 55.0 | |
| Tolerance | : | | |
| | : | 15.0 | |
| Tolerance cm3/1000 strokes | | | |

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,5

Tolerance mm : +-0,2 Dimension MS mm : 1,3 Tolerance mm : +-0,2

MICROSWITCH

SET

mm : 0,8..3,0 : 9,8..10,8

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 25,3..29,7

Control lever

position YB mm : 62,6..74,4

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.07.96 Test oil : ISO 4113

Part no. : 0 460 484 130 Pump designation : VE4/8F2300R458-5

Customer-spec. information Customer : RENAULT Motor : F8Q - 706 Power KW : 45.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 022

Opening pressure

bar : 130 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 3.4
Tolerance mm : 0.2
Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 4.7 Tolerance hPa : 0.3 Shutoff solenoid

Shutoff solenoid

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 32.1

Tolerance

cm3/1000 strokes : 0.5
Spread
cm3/1000 strokes : 2.5

cm3/1000 strokes : Shutoff solenoid

Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 550

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450

Del. quantity

cm3/1000 strokes : 28.5

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt : 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : 15.0

| | | 1 |
|---|-------------------|--|
| Shutoff solenoid Volt | : 12 | Rated speed rpm : 310 |
| | | SV travel mm : 2.2 Tolerance mm : 1.2 |
| LOAD-DEPENDENT STA SETTING | ART OF DELIVERY | + Check + tolerance mm : 1.2 |
| DELIVERY DIFFEREN | CE | + Shutoff solenoid + Volt : 12 |
| Rated speed rpm Del. quantity | : 1250 | KSB/AFB Volt : 12 |
| cm3/1000 strokes Tolerance | : -11.5 | Rated speed rpm : 500 |
| cm3/1000 strokes Shutoff solenoid | : 1.0 | SV travel mm : 3.4 Tolerance mm : 1.2 |
| Volt | : 12 | + Check + tolerance mm : 1.2 |
| PRESSURE DIFFERENCE | CE | + Shutoff solenoid + Volt : 12 |
| Rated speed rpm Del. quantity | : 1250 | KSB/AFB Volt : 12 |
| cm3/1000 strokes Tolerance | | SUPPLY PUMP PRESSURE CHARACTERISTIC |
| c m 3/1000 strokes Shutoff solenoid | | Rated speed rpm : 2000 |
| Volt | : 12 | + Supply pomp + pressure bar : 6.6 |
| TIMING-DEVICE TRAV | | + Tolerance hPa : 0.3 + Shutoff solenoid |
| Rated speed rpm Del. quantity | : 1250 | + Volt : 12 |
| cm3/1000 strokes Tolerance | | + Rated speed rpm : 750 + Supply pomp |
| cm3/1000 strokes Shutoff solenoid | | + pressure bar : 3.4 + Tolerance hPa : 0.3 |
| Volt | : 12 | + Shutoff solenoid + Volt : 12 |
| INJECTION-PUMP TES | ST SPECIFICATIONS | OVERFLOW QUANTITY |
| TIMING DEVICE CHAR | RACTERISTIC | Rated speed rpm : 2250 Overflow quantity |
| Rated speed rpm | : 2000 | + ccm/10s : 97.2 + Tolerance |
| SV travel mm Tolerance mm | : 6.2 : 0.4 | + ccm/10s : 41.6 |
| Check tolerance mm | : 0.7 | + Check tolerance + ccm/10s : 41.6 |
| Shutoff solenoid Volt | : 12 | + Shutoff solenoid + Volt : 12 |
| Rated speed rpm | : 750 | + Rated speed rpm : 750 + Overflow quantity |
| SV travel mm Tolerance mm | : 1.5 : 0.4 | ccm/10s : 63.8 Tolerance |
| Check tolerance mm | : 0.7 | ccm/10s : 22.2 |
| Shutoff solenoid Volt | : 12 | Check tolerance ccm/10s : 22.2 |
| | | |

| Shutoff solenoid Volt | : 12 | ‡ | Shutoff solenoid Volt | : | 12 | |
|-------------------------------------|--------------|-------------|--------------------------------------|------|------------|--|
| DELIVERY AND BREAK | KAWAY CHARAC | CTERISTIC T | Rated speed rpm Del. quantity | : | 750 | |
| Rated speed rpm Del. quantity | : 2450 | 1 | cm3/1000 strokes Tolerance | : | 31.7 | |
| cm3/1000 strokes Tolerance | : 28.5 | <u> </u> | cm3/1000 strokes Check tolerance | : | 1.5 | |
| cm3/1000 strokes Check tolerance | : 3.0 | + | cm3/1000s. Shutoff solenoid | : | 2.3 | |
| cm3/1000s. Shutoff solenoid | : 4.0 | 1 | Volt | : | 12 | |
| Volt | : 12 | <u> </u> | Rated speed rpm Del. quantity | : | 1250 | |
| Rated speed rpm Del. quantity | : 2650 | <u> </u> | cm3/1000 strokes Tolerance | : | 32.1 | |
| cm3/1000 strokes Check tolerance | : 14.5 | + | cm3/1000 strokes Check tolerance | : | 0.5 | |
| cm3/1000s. Shutoff solenoid | : 5.0 | + | cm3/1000s. Shutoff solenoid | | 2.3 | |
| Volt | : 12 | ‡ | Volt | : | 12 | |
| Rated speed rpm Del. quantity | : 2950 | <u> </u> | | | | |
| cm3/1000 strokes Tolerance | | ‡ | ELECTR. SHUTOFF CONTROL LEVER, ID | LE : | STOP | |
| cm3/1000 strokes Check tolerance | | ‡ | Rated speed rpm | | | |
| cm3/1000s. Shutoff solenoid | : 2.5 | + | Del. quantity cm3/1000 strokes | : | 1.5 | |
| Volt | : 12 | ‡ | Tolerance cm3/1000 strokes | : | 1.5 | |
| Rated speed rpm Del. quantity | : 2250 | ‡ | Check tolerance cm3/1000s. | : | 1.5 | |
| cm3/1000 strokes Tolerance | : 34.0 | ‡ | Spread cm3/1000 strokes | : | 5.0 | |
| cm3/1000 strokes Check tolerance | | ‡ | | | | |
| cm3/1000s. Shutoff solenoid | : 2.3 | ‡ | | | | |
| Volt | : 12 | ‡ | | | | |
| Rated speed rpm Del. quantity | | ‡ | CHECKING LOAD-DEP | END | ENT | |
| cm3/1000 strokes Tolerance | | ‡ | START OF DELIVERY | | | |
| cm3/1000 strokes Check tolerance | | ‡ | DELIVERY DIFFEREN | | | |
| cm3/1000s. Shutoff solenoid | : 2.3 | ‡ | Rated speed rpm Del. quantity | | | |
| Volt | : 12 | ‡ | cm3/1000 strokes Tolerance | | -15.2 | |
| Rated speed rpm Del. quantity | : 2000 | ‡ | cm3/1000 strokes Check tolerance | : | 2.0 | |
| cm3/1000 strokes Tolerance | | ‡ | cm3/1000s. Shutoff solenoid | : | 2.0 | |
| cm3/1000 strokes Check tolerance | | ‡ | Volt | • | 12 | |
| cm3/1000s. | : 2.3 | + | TIMING-DEVICE TRA | VEL | DIFFERENCE | |

| Rated speed rpm | : | 1250 |
|--------------------------------|-----|------------|
| Del. quantity cm3/1000 strokes | : | -0.5 |
| Tolerance | • | -0.5 |
| cm3/1000 strokes | : | 0.1 |
| Check tolerance cm3/1000s. | | 0.1 |
| Shutoff solengid | : | υ. ι |
| Volt | : | 12 |
| DELIVERY DIFFEREN | ICE | |
| Rated speed rpm | : | 1250 |
| Del. quantity | | 5.0 |
| cm3/1000 strokes Tolerance | : | 5.0 |
| cm3/1000 strokes | : | 3.0 |
| Check tolerance cm3/1000s. | : | 3.0 |
| Shutoff solenoid | • | 5.0 |
| Volt | : | 12 |
| TIMING-DEVICE TRA | VEL | DIFFERENCE |
| Rated speed rpm | : | 1250 |
| SV travel mm | : | -0.5 |
| Tolerance mm | : | 0.2 |
| Check tolerance mm | : | 0.3 |
| Shutoff solenoid | • | |
| Volt | : | 12 |
| START TRANSITION | | |
| Rated speed rpm | : | 310 |
| Del. quantity cm3/1000 strokes | : | 30.0 |
| Tolerance | • | |
| cm3/1000 strokes | : | 15.0 |
| Shutoff solenoid Volt | : | 12 |
| | | |
| Rated speed rpm | : | 210 |
| Del. quantity | | 55.0 |
| cm3/1000 strokes Tolerance | : | 55.0 |
| cm3/1000 strokes | : | 15.0 |
| Shutoff solenoid | | 12 |
| Volt | : | 12 |

Tolerance mm : +-0,2
Dimension MS mm : 1,3
Tolerance mm : +-0,2

End of test-specification sheet

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.07.96 Test oil : ISO 4113

Part no. : 0 460 426 246 Pump designation : VE6/12F1250R498-5

Customer-spec. information

Customer : CDC

Motor : 6 BT 5.9B Power KW : 120.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 109

Opening pressure

bar : 207 Tolerance bar : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x Length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,4
Tolerance mm : +-0,02
Outlet : D

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1100
Aneroid pressure
hPa : 1000

Setting mm : 1.8
Tolerance mm : 0.2
Shutoff solenoid

SUPPLY PUMP PRESSURE

Volt

Rated speed rpm : 1100
Aneroid pressure
hPa : 1000

Setting hPa : 6.8
Tolerance hPa : 0.3
Shutoff solenoid
Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

24

Rated speed rpm 850 Aneroid pressure 1000 Del. quantity cm3/1000 strokes : 81.6 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 5.0 Shutoff solenoid Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm Del. quantity cm3/1000 strokes : 68.1 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 5.0 Shutoff solenoid 24 Volt Check tolerance cm3/1000s.6.0

| Check tolerance | | + Aneroid pressure |
|--------------------------------------|-------------------|---|
| cm3/1000s. | : 5.0 | hPa : 1000 Shutoff solenoid |
| IDLE SETTING | | Volt : 24 |
| Rated speed rpm Del. quantity | : 325 | Rated speed rpm : 450 |
| cm3/1000 strokes Tolerance | : 10.0 | SV travel mm : 2.5 Tolerance mm : 0.5 |
| cm3/1000 strokes Shutoff solenoid | : 2.0 | Check tolerance mm : 0.7 |
| Volt | : 24 | Shutoff solenoid |
| Spread cm3/1000 strokes | ; 5.5 | + |
| Check tolerance cm3/1000s. | : 7.0 | + KSB/AFB Volt : 24 |
| | | + SUPPLY PUMP PRESSURE CHARACTERISTIC |
| FULL-LOAD SPEED R | REGULATION | Rated speed rpm : 1250 Aneroid pressure |
| Rated speed rpm | : 1380 | hPa : 1000 |
| Pressure hPa Del. quantity | : 1000 | + Supply pomp + pressure bar : 7.3 |
| cm3/1000 strokes | : 60.0 | + Tolerance hPa : 0.3 |
| Tolerance | | + Shutoff solenoid |
| cm3/1000 strokes Shutoff solenoid | | + Volt : 24 |
| Volt | : 24 | Rated speed rpm : 800 Aneroid pressure |
| STARTING FUEL DEL | IVERY | + hPa : 1000 |
| Rated speed rpm | : 100 | + Supply pomp + pressure bar : 5.7 |
| Del. quantity | . 100 | Tolerance hPa : 0.3 |
| cm3/1000 strokes | : 85.0 | + Shutoff solenoid |
| Tolerance | 45.0 | + Volt : 24 |
| cm3/1000 strokes Shutoff solenoid | : 15.0 | + Rated speed rpm : 500 |
| Volt | : 24 | + Rated speed rpm : 500 + Aneroid pressure |
| VOCC | • • | + hPa : 1000 |
| | | + Supply pomp |
| | | pressure bar : 4.5 |
| | | Tolerance hPa : 0.3 - Shutoff solenoid |
| INJECTION-PUMP TE | ST SPECIFICATIONS | + Volt : 24 |
| | | + |
| TIMING DEVICE CHA | RACTERISTIC | + OVERFLOW QUANTITY |
| Rated speed rpm Aneroid pressure | : 1250 | Rated speed rpm : 500 Overflow quantity |
| hPa | : 1000 | ccm/10s : 63.8 Tolerance |
| SV travel mm | 2.5 | ccm/10s : 22.2 |
| Tolerance mm Check | : 0.4 | Check tolerance |
| tolerance mm Shutoff solenoid | : 0.7 | ccm/10s : 22.2 + Shutoff solenoid |
| Volt | : 24 | Volt : 24 |
| Rated speed rpm | : 500 | Rated speed rpm : 1250 |

| Aneroid pressure | | _ | + | Rated speed rpm | | 1250 | |
|-------------------------------------|------------|------------|--------------|--|------|--------------|-------------|
| hPa | : 100 | 00 | † | Aneroid pressure hPa | | 1000 | |
| Overflow quantity ccm/10s | : 77. | 7 | I | Del. quantity | • | 1000 | |
| Tolerance | | | + | cm3/1000 strokes | : | 84.2 | |
| ccm/10s | : 27. | 7 | + | Tolerance cm3/1000 strokes | | 2.0 | |
| Check tolerance | | | 1 | Check tolerance | • | 2.0 | |
| ccm/10s | : 27. | 7 | + | cm3/1000s. | : | 3.5 | |
| Shutoff solenoid | _ | | + | Shutoff solenoid | | | |
| Volt | : 2 | 24 | 1 | Volt | : | 24 | |
| DELIVERY AND BREA | KAWAY CHAF | ACTERISTIC | Ţ | Rated speed rpm | : | 1100 | |
| | 4700 | | + | Aneroid pressure | | 4000 | |
| Rated speed rpm Aneroid pressure | : 1380 | | † | hPa Del. quantity | : | 1000 | |
| hPa | : 100 | 0 | I | cm3/1000 strokes | : | 83.8 | |
| Del. quantity | | | + | Tolerance | | | |
| cm3/1000 strokes | : 60. | 0 | + | cm3/1000 strokes | : | 2.5 | |
| Tolerance cm3/1000 strokes | : 6. | Λ | İ | Check tolerance cm3/1000s. | | 4.0 | |
| Check tolerance | . 0. | 0 | I | Shutoff solenoid | • | 4.0 | |
| cm3/1000s. | : 8. | 0 | + | Volt | : | 24 | |
| Shutoff solenoid | | 4 | † | Ostad aroad nam | | 850 | |
| Volt | : 2 | 4 | Ī | Rated speed rpm Aneroid pressure | • | 920 | |
| Rated speed rpm | : 1465 | | + | hPa | : | 1000 | |
| Aneroid pressure | 400 | • | + | Del. quantity | | 04 (| |
| hPa Del. quantity | : 100 | U | 1 | cm3/1000 strokes Tolerance | : | 81.6 | |
| cm3/1000 strokes | : 20. | 0 | I | cm3/1000 strokes | : | 0.5 | |
| Check tolerance | | | + | Check tolerance | | | |
| cm3/1000s. | : 20. | 0 | + | cm3/1000s. | : | 2.5 | |
| Shutoff solenoid Volt | . 2 | 4 | 1 | Shutoff solenoid Volt | • | 24 | |
| VOCC | | • | + | | • | - | |
| Rated speed rpm | : 1500 | | + | ************************************** | | | |
| Aneroid pressure hPa | : 100 | n | İ | MECHANICAL SHUTOF | ۲ | | |
| Del. quantity | . 100 | J | Ţ | Rated speed rpm | : | 1250 | |
| cm3/1000 strokes | : 1. | 5 | + | Aneroid pressure | | | |
| Tolerance cm3/1000 strokes | : 1. | - | † | hPa Del. quantity | : | 1000 | |
| Check tolerance | : 1. |) | Ī | cm3/1000 strokes | : | 1.5 | |
| cm3/1000s. | : 1. | 5 | + | Tolerance | | | |
| Shutoff solenoid | • | , | + | cm3/1000 strokes | : | 1.5 | |
| Volt | : 2 | 4 | İ | Spread cm3/1000 strokes | • | 5.0 | |
| Rated speed rpm | : 600 | | I | Check tolerance | • | ٥.٠ | |
| Aneroid pressure | | | + | cm3/1000s. | : | 1.5 | |
| hPa | : 45 | 0 | † | Spread | | 5.0 | |
| Del. quantity cm3/1000 strokes | : 73. | 9 | I | cm3/1000 strokes Shutoff solenoid | • | ن. د | |
| Tolerance | | | + | Volt | : | 24 | |
| cm3/1000 strokes | : 0. | 5 | + | | | | |
| Check tolerance cm3/1000s. | : 4.0 | า | İ | ELECTR. SHUTOFF | | | |
| Shutoff solenoid | • 4• | • | \downarrow | CONTROL LEVER, ID | LE S | TOP | |
| Volt | : 2 | 4 | + | · | | | |
| | | | + | Rated speed rpm | : | 350 | |

| _ | | |
|--------------------------------------|-------|---------|
| Del. quantity cm3/1000 strokes | : | 1.5 |
| Tolerance cm3/1000 strokes | : | 1.5 |
| Check tolerance cm3/1000s. | : | 1.5 |
| Spread cm3/1000 strokes | : | 5.0 |
| FULL-LOAD STOP CO | ONTRO | L LEVER |
| Rated speed rpm | : | 350 |
| Del. quantity cm3/1000 strokes | : | 1.5 |
| Tolerance cm3/1000 strokes | : | 1.5 |
| Spread cm3/1000 strokes | : | 5.0 |
| Check tolerance cm3/1000s. | : | 1.5 |
| Spread cm3/1000 strokes | : | 5.0 |
| IDLE DELIVERY | | |
| Rated speed rpm | : | 410 |
| Del. quantity cm3/1000 strokes | : | 1.5 |
| Tolerance cm3/1000 strokes | : | 1.5 |
| Check tolerance cm3/1000s. | : | 1.5 |
| Shutoff solenoid Volt | : | 24 |
| | | |
| | | |
| | | |
| START TRANSITION | | |
| Rated speed rpm Del. quantity | : | 240 |
| cm3/1000 strokes Tolerance | : | 80.0 |
| cm3/1000 strokes Shutoff solenoid | : | 10.0 |
| Volt | : | 24 |
| Rated speed rpm | : | 130 |
| Del. quantity cm3/1000 strokes | : | 100.0 |
| Tolerance cm3/1000 strokes | : | 20.0 |
| Shutoff solenoid Volt | : | 24 |
| | | |

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7
Tolerance mm : +-0,1
Dimension KF mm : 6,4
Tolerance mm : -0,2
MS1 dimension mm : 1,1
Tolerance mm : +0,15/-0,1

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 34,8..38,8

Control lever

position YB mm : 43,9..49,1

End of test-specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.07.96 Test oil : ISO 4113

: 0 460 484 101 Part no. Pump designation : VE4/8F2200R574-1

Customer-spec. information : VW Customer : 1.9L SD Motor

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

147 bar 3 Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,9 Tolerance mm : +-0,2

Outlet | : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm 5.3 Tolerance mm 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa 5.9 Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1250 Rated speed rpm : Del. quantity

cm3/1000 strokes : 33.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 525

Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 strokes : 1.0

Shutoff solenoid

Volt 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2525 Del. quantity

cm3/1000 strokes : 10.5

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

| | | 1 | | | |
|--------------------|--------------------|---------|--------------------------|------------------|------|
| Rated speed rpm | : 100 | ↓ Rat | ted speed rpm | : 2200 | |
| Del. quantity | | | erflow quantity | . 2200 | |
| cm3/1000 strokes | : 53.0 | | n/10s | : 97.2 | |
| Tolerance | . 33.3 | · · | lerance | . // | |
| cm3/1000 strokes | : 13.0 | | n/10s | : 41.6 | |
| Shutoff solenoid | . 13.0 | 1 | II/ 103 | . 41.0 | |
| Volt | : 12 | I che | eck tolerance | | |
| 4000 | • 12 | · · | n/10s | : 41.6 | |
| | | | utoff solenoid | : 41.6 | |
| | | T Vol | | : 12 | |
| | | T | - L | . 12 | |
| | | T pos | ted speed nom | : 750 | |
| TALLECTTON-DUMP TO | EST SPECIFICATIONS | | ted speed rpm | · · | |
| TIMECITON-FUME 15 | 231 SPECIFICATIONS | | erflow quantity m/10s | | |
| TIMING NEUTCE CU | ADACTEDICTIC | • | | : 63.8 | |
| TIMING DEVICE CHA | ARACIERISTIC | | lerance | . 22.2 | |
| Dated aread non | . 2000 | + ccn | n/10s | : 22.2 | |
| Rated speed rpm | : 2000 | † 61 | | | |
| Tolerance mm | : 0.4 | | eck tolerance | 22.2 | |
| Check | 0.7 | | n/10s | : 22.2 | |
| tolerance mm | : 0.7 | | rtoff solenoid | 40 | |
| Shutoff solenoid | 40 | + Vol | .t | : 12 | |
| Volt | : 12 | † | | | |
| | 7 | † DEL | LIVERY AND BREAK | (AWAY CHARACTERI | STIC |
| Rated speed rpm | : 750 | + _ | | | |
| | | | | : 2525 | |
| SV travel mm | : 3.5 | + Del | . quantity | | |
| Tolerance mm | : 0.4 | | 3/1000 strokes | : 10.5 | |
| Check | | • | .erance | | |
| tolerance mm | : 0.7 | , | 3/1000 strokes | : 2.0 | |
| Shutoff solenoid | | | eck tolerance | | |
| Volt | : 12 | | 3/10 00 s. | : 4.0 | |
| | | | itoff solenoid | | |
| Rated speed rpm | : 2000 | + Vol | .t | : 12 | |
| | | + | | | |
| SV travel mm | : 1.3 | | | : 2400 | |
| Tolerance mm | : 0.4 | | . quantity | | |
| Shutoff solenoid | | | 3/1000 strokes | : 27.0 | |
| Volt | : 12 | + Tol | erance. | | |
| | | + cm3 | 3/1000 strokes | : 5.0 | |
| Timing device | | | ck tolerance | | |
| solenoid Volt | : 100 | | 3/1000s. | : 6.0 | |
| | | ∔ Shu | rtoff solenoid | | |
| SUPPLY PUMP PRESS | URE CHARACTERISTIC | → Vol | t | : 12 | |
| | | + | | | |
| Rated speed rpm | : 2000 | + Rat | ed speed rpm | : 2675 | |
| Supply pomp | | + Del | . quantity | | |
| pressure bar | : 8.0 | - | /1000 strokes | : 1.5 | |
| Tolerance hPa | : 0.3 | + Tol | erance | | |
| Shutoff solenoid | | - | /1000 strokes | : 1.5 | |
| Volt | : 12 | ∔ Che | ck tolerance | | |
| | | + cm3 | 7/1000s. | : 1.5 | |
| Rated speed rpm | : 750 | - → Shu | toff solenoid | | |
| Supply pomp | | + Vol | | : 12 | |
| pressure bar | : 4.3 | + | | • | |
| Tolerance hPa | : 0.3 | ∔ Rat | ed speed rpm | : 2200 | |
| Shutoff solenoid | | | . quantity | | |
| Volt | : 12 | | /1000 strokes | : 35.0 | |
| • | | • | erance | _ | |
| OVERFLOW QUANTITY | | + cm3 | /1000 strokes | : 1.0 | |
| | | • | | | |

| Check tolerance cm3/1000s. | : 2.2 | + Del. quantity + cm3/1000 strokes : 1.5 |
|---|----------------|---|
| Shutoff solenoid Volt | : 12 | + Tolerance + cm3/1000 strokes : 1.5 |
| Rated speed rpm Del. quantity | : 400 | + Spread + cm3/1000 strokes : 5.0 + Check tolerance |
| cm3/1000 strokes Tolerance | : 37.5 | cm3/1000s. : 1.5 |
| cm3/1000 strokes Check tolerance | : 3.0 | cm3/1000 strokes : 5.0 |
| cm3/1000s. Shutoff solenoid | : 5.5 | |
| Volt | : 12 | + |
| Rated speed rpm Del. quantity | | + |
| cm3/1000 strokes Shutoff solenoid | : -3.3 | ‡ |
| Volt | : 12 | + Rated speed rpm : 180 + Del. quantity |
| Rated speed rpm Del. quantity | | tom3/1000 strokes : 57.0 Tolerance |
| cm3/1000 strokes Tolerance | | + cm3/1000 strokes : 17.0 + Shutoff solenoid |
| cm3/1000 strokes Check tolerance cm3/1000S. Shutoff solenoid Volt | : 1.5 : 3.0 | + Volt : 12 |
| | : 12 | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| Rated speed rpm | | Dimension K mm : 3,3 Tolerance mm : +-0,1 |
| Del. quantity cm3/1000 strokes | | Dimension KF mm : 5,7 Tolerance mm : +-0,2 |
| Tolerance cm3/1000 strokes | | Dimension MS mm : 1,3 Tolerance mm : +-0,2 |
| Check tolerance cm3/1000s. | : 2.2 | + |
| Shutoff solenoid Volt | : 12 | + CONTROL LEVER POSITION |
| | | + SET + |
| ELECTR. SHUTOFF CONTROL LEVER, ID | LE STOP | Control lever position YA mm : 36,040,0 |
| Rated speed rpm Del. quantity | : 450 | Control lever position YB mm : 47,761,3 |
| cm3/1000 strokes Tolerance | : 1.5 | T posteron is time . 47,701,3 |
| cm3/1000 strokes Check tolerance | : 1.5 | <u> </u> |
| cm3/1000s. Spread | : 1.5 | End of test-specification sheet |
| cm3/1000 strokes | : 5.0 | ‡ |
| FULL-LOAD STOP CON | NTROL LEVER | 1 |

Rated speed rpm : 450

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.07.96 Test oil : ISO 4113

Part no. : 0 460 484 105 Pump designation : VE4/8F2200R574-2

Customer-spec. information Customer : SEAT

Motor : 1.9L SD Klima

Power KW : 47.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45 Tolerance °C : 1

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 147 Tolerance bar : 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,9 Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm : 5.3
Tolerance mm : 0.2
Shutoff solenoid
Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa : 5.9 Tolerance hPa : 0.3 Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250 Del. quantity

cm3/1000 strokes : 33.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt : 12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 525

Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 strokes : 1.0

Shutoff solenoid

Volt : 12

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2525 Del. quantity

cm3/1000 strokes :

Tolerance cm3/1000 strokes : 2.0

10.5

Shutoff solenoid

Volt : 12

STARTING FUEL DELIVERY

| | | , | |
|--|---------------------|---|------|
| Rated speed rpm Del. quantity | : 100 | + Rated speed rpm : + Overflow quantity | 2200 |
| cm3/1000 strokes Tolerance | : 53.0 | ccm/10s : | 97.2 |
| cm3/1000 strokes Shutoff solenoid | | ccm/10s : | 41.6 |
| Volt | : 12 | Check tolerance ccm/1Gs : Shutoff solenoid | 41.6 |
| | | Volt : | 12 |
| INJECTION-PUMP TE | EST SPECIFICATIONS | Rated speed rpm : Overflow quantity | 750 |
| TIMING DEVICE CHARACTERISTIC | | ccm/10s : Tolerance | 63.8 |
| | | ccm/10s : | 22.2 |
| Rated speed rpm Tolerance mm Check | : 2000 : 0.4 | Check tolerance | 22.2 |
| tolerance mm Shutoff solenoid | : 0.7 | - Shutoff solenoid - Volt : | 12 |
| Volt | : 12 | + | |
| Rated speed rpm | : 750 | + DELIVERY AND BREAKAW | |
| SV travel mm | : 3.5 | + Rated speed rpm : + Del. quantity | 2525 |
| Tolerance mm Check | : 0.4 | cm3/1000 strokes : Tolerance | 10.5 |
| tolerance mm | : 0.7 | \downarrow cm3/1000 strokes : | 2.0 |
| Shutoff solenoid Volt | : 12 | + Check tolerance + cm3/1000s. : + Shutoff solenoid | 4.0 |
| Rated speed rpm | : 2000 | Volt : | 12 |
| SV travel mm | : 1.3 | † Rated speed rpm : | 2400 |
| Tolerance mm Shutoff solenoid | : 0.4 | Del. quantity cm3/1000 strokes : | 27.0 |
| Volt | : 12 | + Tolerance + cm3/1000 strokes : | 5.0 |
| Timing device solenoid Volt | : 100 | + Check tolerance + cm3/1000s. : | 6.0 |
| SUPPLY PUMP PRESS | SURE CHARACTERISTIC | + Shutoff solenoid + Volt : | 12 |
| Rated speed rpm | : 2000 | Rated speed rpm : Del. quantity | 2675 |
| Supply pomp pressure bar | : 8.0 | + cm3/1000 strokes : | 1.5 |
| Tolerance hPa Shutoff solenoid | : 0.3 | Tolerance cm3/1000 strokes : | 1.5 |
| Volt | : 12 | + Check tolerance + cm3/1000s. : | 1,5 |
| Rated speed rpm Supply pomp | : 750 | Shutoff solenoid Volt : | 12 |
| pressure bar | : 4.3 : 0.3 | + | 2200 |
| Tolerance hPa Shutoff solenoid | | + Rated speed rpm : + Del. quantity | |
| Volt | : 12 | cm3/1000 strokes : Tolerance | 35.0 |
| OVERFLOW QUANTITY | | + cm3/1000 strokes : | 1.0 |

| Check tolerance cm3/1000S. Shutoff solenoid Volt | : 2.2 | + Del. quantity + cm3/1000 strokes : 1.5 |
|---|-------------|---|
| | : 12 | + Tolerance + cm3/1000 strokes : 1.5 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : 400 | + Spread + cm3/1000 strokes : 5.0 + Check tolerance |
| | : 37.5 | cm3/1000s. : 1.5 |
| cm3/1000 strokes Check tolerance | : 3.0 | cm3/1000 strokes : 5.0 |
| cm3/1000S. Shutoff solenoid | : 5.5 | |
| Volt | : 12 | + |
| Rated speed rpm Del. quantity | | ‡ |
| cm3/1000 strokes Shutoff solenoid | | † |
| Volt | : 12 | Rated speed rpm : 180 Del. quantity |
| Rated speed rpm Del. quantity | | cm3/1000 strokes : 57.0 Tolerance |
| cm3/1000 strokes Tolerance cm3/1000 strokes | | cm3/1000 strokes : 17.0 Shutoff solenoid Volt : 12 |
| Check tolerance cm3/1000s. | : 1.5 | + Volt : 12 |
| Shutoff solenoid Volt | : 12 | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| VOCC | , , , , | Dimension K mm : 3,3 |
| Rated speed rpm Del. quantity | : 1250 | Tolerance mm : +-0,1 Dimension KF mm : 5,7 |
| cm3/1000 strokes Tolerance | | + Tolerance mm : +-0,2 + Dimension MS mm : 1,3 |
| cm3/1000 strokes Check tolerance | | + Tolerance mm : +-0,2 |
| cm3/1000s. Shutoff solenoid | : 2.2 | † |
| Volt | : 12 | + CONTROL LEVER POSITION + SET + |
| ELECTR. SHUTOFF CONTROL LEVER, ID | LE STOP | - + Control lever + position YA mm : 36,040,0 |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : 450 | Control lever |
| | : 1.5 | + position YB mm : 47,757,3 |
| | : 1.5 | <u> </u> |
| cm3/1000s. Spread | : 1.5 | End of test-specification sheet |
| cm3/1000 strokes | : 5.0 | 1 |
| FULL-LOAD STOP CON | NTROL LEVER | + |

Rated speed rpm : 450

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.06.96 Edition : ISO 4113 Test oil

: 0 460 424 132 Part no. Pump designation: VE4/12F1350R621-1

Customer-spec. information

Customer : IVECO-FIAT : 8040.45.5100 EU2 Motor

Power KW 85.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow

0.55 restriction mm

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 bar Tolerance bar

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000

Aneroid pressure

hPa 1000

1.5 Setting mm Tolerance mm 0.1 Shutoff solenoid

Volt 24

KSB/AFB Volt 24

SUPPLY PUMP PRESSURE

Rated speed rpm 1000

Aneroid pressure

1000 hPa

Setting hPa 6.9 Tolerance hPa 0.3

Shutoff solenoid

Volt 24

KSB/AFB Volt : 24

FULL-LOAD DELIVERY WITH BOOST PRESSURE

| Rated speed rpm Aneroid pressure | : | 700 |
|-------------------------------------|---|------|
| hPa | : | 1000 |
| Del. quantity cm3/1000 strokes | : | 72.0 |
| Tolerance cm3/1000 strokes | : | 0.5 |
| Spread cm3/1000 strokes | • | 3.5 |
| Check tolerance | • | |
| cm3/1000S. Shutoff solenoid | : | 5.0 |
| Volt | : | 24 |
| | | |

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

24

| Rated speed rpm Del. quantity | : | 500 |
|----------------------------------|---|------|
| cm3/1000 strokes | : | 53.0 |
| Tolerance cm3/1000 strokes | : | 0.5 |
| Shutoff solenoid Volt | : | 24 |
| Check tolerance cm3/1000s. | : | 5.0 |
| KSB/AFB Volt | : | 24 |

KSB/AFB Volt :

IDLE SETTING

| | 705 | |
|---|-------------------|--|
| Rated speed rpm Del. quantity | | + Setting point KSB + Rated speed rpm : 340 |
| cm3/1000 strokes Tolerance | | + Aneroid pressure + hPa : 1000 |
| cm3/1000 strokes Shutoff solenoid Volt Spread cm3/1000 strokes Check tolerance cm3/1000s. | : 2.0 : 24 | SV travel mm : 2.0 Tolerance mm : 0.3 |
| | : 3.5 | + Check + tolerance mm : 1.2 |
| | : 5.0 | + Shutoff solenoid + Volt : 24 |
| KSB/AFB Volt | : 24 | Rated speed rpm : 450 Aneroid pressure |
| FULL-LOAD SPEED R | REGIL ATTON | hPa : 1000 |
| TOLL LOND OF LED IN | (EGOLATION | → SV travel mm : 3.0 |
| Rated speed rpm Pressure hPa | : 1550 : 1000 | Tolerance mm : 0.6 |
| Del. quantity cm3/1000 strokes | | tolerance mm : 0.7 Shutoff solenoid |
| Tolerance cm3/1000 strokes | | + Volt : 24 |
| Shutoff solenoid | | SUPPLY PUMP PRESSURE CHARACTERISTIC |
| Volt | : 24 | + Rated speed rpm : 1100 |
| KSB/AFB Volt | : 24 | Aneroid pressure hPa : 1000 |
| STARTING FUEL DEL | IVERY | Supply pomp pressure bar : 7.5 |
| Rated speed rpm Del. quantity | : 100 | + Tolerance hPa : 0.3 + Shutoff solenoid |
| cm3/1000 strokes Tolerance | : 73.0 | Volt : 24 |
| cm3/1000 strokes Shutoff solenoid | : 25.0 | KSB/AFB Volt : 24 |
| Volt | : 24 | Rated speed rpm : 700 Aneroid pressure |
| KSB/AFB Volt | : 24 | hPa : 1000 + Supply pomp |
| | | pressure bar : 5.2 |
| | | Tolerance hPa : 0.3 Shutoff solenoid |
| TALIFOTTON DIMO TE | OT CDECKETCATIONS | - Volt : 24 |
| | ST SPECIFICATIONS | KSB/AFB Volt : 24 |
| TIMING DEVICE CHA | | Rated speed rpm : 450 |
| Rated speed rpm Aneroid pressure | : 1100 | + Aneroid pressure + hPa : 1000 |
| hPa | : 1000 | Supply pomp pressure bar : 7.0 |
| SV travel mm | : 2.7 | + Tolerance hPa : 0.8 |
| Tolerance mm Check | : 0.1 | + Shutoff solenoid + Volt : 24 |
| tolerance mm Shutoff solenoid | : 0.7 | OVERFLOW QUANTITY |
| Volt | : 24 | Rated speed rpm : 500 |
| KSB/AFB Volt | : 24 | T Mateu speed (pill . 500 |

F04

| Overflow quantity ccm/10s | : | 63.8 | | † | Del. quantity cm3/1000 strokes | : | 1.5 |
|-------------------------------------|-----|------------|----------|----------|-------------------------------------|---|------|
| Tolerance ccm/10s | : | 22.2 | | ‡ | Tolerance cm3/1000 strokes | ; | 1.5 |
| Check tolerance | | | | + | Check tolerance cm3/1000s. | | 1.5 |
| ccm/10s | : | 22.2 | | Ŧ | Shutoff solenoid | • | |
| Shutoff solenoid Volt | | 24 | | 1 | Volt | : | 24 |
| | • | _ | | + | KSB/AFB Volt | : | 24 |
| KSB/AFB Volt | : | 24 | | ‡ | Rated speed rpm | : | 600 |
| Rated speed rpm | : | 1350 | | + | Aneroid pressure | | 350 |
| Aneroid pressure hPa | ; | 1000 | | Ŧ | Del. quantity | • | |
| Overflow quantity ccm/10s | • | 97.2 | | <u>†</u> | cm3/1000 strokes Tolerance | : | 69.5 |
| Tolerance | • | | | + | cm3/1000 strokes | : | 0.5 |
| ccm/10s | : | 41.6 | | ‡ | Check tolerance cm3/1000s. | : | 4.0 |
| Check tolerance | | 11 | | + | Shutoff solenoid | | |
| ccm/10s Shutoff solenoid | : | 41.6 | | ‡ | Volt | : | 24 |
| Volt | : | 24 | | Ì | KSB/AFB Volt | : | 24 |
| KSB/AFB Volt | : | 24 | | Ŧ | Rated speed rpm | : | 1350 |
| DELIVERY AND BREA | KAW | AY CHARACT | TERISTIC | ‡ | Aneroid pressure hPa | : | 1000 |
| | | | | + | Del. quantity | | 69.5 |
| Rated speed rpm Aneroid pressure | : | 1550 | | Ŧ | cm3/1000 strokes Tolerance | • | |
| hPa Del. quantity | : | 1000 | | İ | cm3/1000 strokes Check tolerance | : | 2.0 |
| cm3/1000 strokes | : | 15.0 | | Ŧ | cm3/1000s. | : | 3.5 |
| Tolerance cm3/1000 strokes | : | 3.0 | | ‡ | Shutoff solenoid Volt | : | 24 |
| Check tolerance | | 6.0 | | + | MSD/AFD Val+ | | 24 |
| cm3/1000S. Shutoff solenoid | • | | | Ŧ | KSB/AFB Volt | • | |
| Volt | : | 24 | | ‡ | Rated speed rpm Aneroid pressure | : | 500 |
| KSB/AFB Volt | : | 24 | | + | hPa | : | 1000 |
| Rated speed rpm | : | 1475 | | ‡ | Del. quantity cm3/1000 strokes | : | 77.5 |
| Aneroid pressure | | 1000 | | 1 | Tolerance cm3/1000 strokes | : | 2.0 |
| Del. quantity | • | | | Ŧ | Check tolerance | • | |
| cm3/1000 strokes Tolerance | : | 50.0 | | ‡ | cm3/1000S. Shutoff solenoid | : | 3.5 |
| cm3/1000 strokes | : | 6.0 | | + | Volt | : | 24 |
| Check tolerance cm3/1000s. | : | 7.0 | | Ŧ | KSB/AFB Volt | : | 24 |
| Shutoff solenoid Volt | : | 24 | | <u>†</u> | Rated speed rpm | • | 700 |
| | | | | + | Aneroid pressure | • | |
| KSB/AFB Volt | : | 24 | | ‡ | hPa Del. quantity | : | 1000 |
| Rated speed rpm | : | 1600 | | + | cm3/1000 strokes | : | 72.0 |
| Aneroid pressure hPa | : | 1000 | | Ţ | Tolerance cm3/1000 strokes | : | 0.5 |
| | | | | | | | |

| Check tolerance | | + Shutoff solenoid |
|-------------------------|----------------|--------------------------------------|
| cm3/1000s. | : 3.5 | + Volt : 24 |
| Shutoff solenoid | . 3.3 | . 24 |
| | . 2/ | T KOD (AED 11.14 |
| Volt | : 24 | + KSB/AFB Volt : 24 |
| | | † |
| | | Rated speed rpm : 130 |
| ELECTR. SHUTOFF | | + Del. quantity |
| | N.E. STOD | |
| CONTROL LEVER, IC | DLE STOP | + cm3/1000 strokes : 75.0 |
| | | + Tolerance |
| Rated speed rpm | : 350 | + cm3/1000 strokes : 15.0 |
| Del. quantity | | → Shutoff solenoid |
| cm3/1000 strokes | : 1.5 | + Volt : 24 |
| Tolerance | | |
| cm3/1000 strokes | . 15 | ↓ KSB/AFB Volt : 24 |
| Check tolerance | • 1.5 | T KOD/AID VOCE . 24 |
| 7/40000 | . 15 | Ť |
| cm3/1000s. | : 1.5 | |
| Spread | _ | + ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| cm3/1000 strokes | : 5.0 | + |
| | | Dimension K mm : 3,6 |
| FULL-LOAD STOP CO | NTROL LEVER | + Tolerance mm : +-0,1 |
| | THE LEVEN | Dimension KF mm : 8,4 |
| Dated speed | : 350 | |
| Rated speed rpm | . 330 | + Tolerance mm : +-0,2 |
| Del. quantity | 4 = | + MS1 dimension mm : 1,6 |
| cm3/1000 strokes | : 1.5 | + Tolerance mm : +0,15/-0,1 |
| Tolerance | | + |
| cm3/1000 strokes | : 1.5 | + |
| Spread | · - | + |
| cm3/1000 strokes | • 5.0 | + CONTROL LEVER POSITION |
| Check tolerance | . 5.0 | + SET |
| neck tolerance | . 1.5 | 7 361 |
| m3/1000s. | : 1.5 | † |
| pread | | + |
| m3/1000 strokes | : 5.0 | + Control lever |
| | | + position YA mm : 36,940,9 |
| DLE DELIVERY | | + |
| | | + Control lever |
| Rated speed rpm | : 450 | position YB mm : 38,944,1 |
| Del. quantity | | 1 20010101112 111111 . 30// |
| | | T |
| cm3/1000 strokes | . 1.5 | † |
| olerance | | <u> </u> |
| m3/1000 strokes | : 1.5 | + |
| heck tolerance | | End of test-specification sheet |
| m3/1000s. | : 1.5 | + |
| hutoff solenoid | | |
| olt | : 24 | \perp |
| ott | . 4 | I |
| SR/AFR VAL+ | : 24 | I |
| SB/AFB Volt | . 64 | T |
| | | † |
| | | † |
| | | + |
| | | + |
| | | + |
| | | 1 |
| TART TRANSITION | | 1 |
| INVITED IN WASTITON | | \mathbf{I} |
| | . 250 | Ţ |
| ated speed rpm | : 250 | † |
| el. quantity | | † |
| n 3/1000 strokes | : 50.0 | † |
| olerance | | + |
| | : 10.0 | + |
| | | • |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.02.96 Test oil : ISO 4113

: 0 460 494 403 Part no. Pump designation : VE4/9F2150R637

Customer-spec. information

: NISSAN-MISA Customer

Motor : GX-3 Power KW 53.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C 1

Overflow

restriction mm 0.55

Inlet press. bar : 0.35Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1200

Setting mm 3.2 Tolerance inm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

1200 Rated speed rpm :

5.9 Setting hPa : Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

12

2.5

Rated speed rpm 2150 Del. quantity

cm3/1000 strokes : 44.5 Tolerance

cm3/1000 strokes :

0.5 Spread

cm3/1000 strokes 2.5 Shutoff solenoid

Volt

IDLE SETTING

Rated speed rpm 375

Del. quantity cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes 2.0 Shutoff solenoid

Volt

12 Spread

cm3/1000 strokes : Check tolerance

cm3/1000S. 3.0

FULL-LOAD SPEED REGULATION

Rated speed rpm 2500

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes 3.0

Shutoff solenoid

Volt

12

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 60.0

F07

| Tolerance cm3/1000 strokes | : | 15.0 | | ‡ | Rated speed rpm Overflow quantity | : | 600 | |
|----------------------------------|-------|-------------|--------------|----------|--------------------------------------|----------|--------------|---------|
| Shutoff solenoid Volt | • | 12 | | <u>†</u> | ccm/10s Tolerance | : | 63.8 | |
| VOCE | • | 12 | | Ţ | ccm/10s | : | 22.2 | |
| | | | | <u> </u> | Check tolerance ccm/10s | : | 22.2 | |
| | | | | 1 | Shutoff solenoid | • | 66. 6 | |
| INJECTION-PUMP TE | EST S | PECIFICAT | IONS | 1 | Volt | : | 12 | |
| TIMING DEVICE CHA | ARACT | ERISTIC | | 1 | DELIVERY AND BREA | KAW | AY CHARACT | ERISTIC |
| Rated speed rpm | : | 2150 | | Ì | Rated speed rpm Del. quantity | : | 2500 | |
| SV travel mm | : | 9.2 | | 1 | cm3/1000 strokes | : | 15.0 | |
| Tolerance mm | : | 0.4 | | + | Tolerance | | | |
| Check | | | | + | cm3/1000 strokes | : | 3.0 | |
| tolerance mm Shutoff solenoid | : | 0.7 | | † | Check tolerance | _ | 4.5 | |
| Volt | | 12 | | Ī | cm3/1000S. Shutoff solenoid | • | 4.5 | |
| VOCC | • | , , | | 1 | Volt | : | 12 | |
| Rated speed rpm | | 900 | | + | | | | |
| | | | | + | Rated speed rpm | : | 2350 | |
| SV travel mm | | 1.2 | | † | Del. quantity | _ | 77 7 | |
| Tolerance mm Check | : | 0.4 | | Ī | cm3/1000 strokes Tolerance | : | 33.3 | |
| tolerance mm | : | 0.7 | | I | cm3/1000 strokes | : | 4.0 | |
| Shutoff solenoid | · | | | + | Check tolerance | • | | |
| Volt | : | 12 | | + | cm3/1000s. | : | 5.5 | |
| | | | | + | Shutoff solenoid | | 40 | |
| SUPPLY PUMP PRESS | URE | CHARACTER. | ISITE | İ | Volt | : | 12 | |
| Rated speed rpm Supply pomp | : | 2150 | | Ī | Rated speed rpm Del. quantity | : | 2700 | |
| pressure bar | : | 8.7 | | + | cm3/1000 strokes | : | 2.5 | |
| Tolerance hPa | : | 0.3 | | + | Tolerance | | - - | |
| Shutoff solenoid | | 40 | | + | cm3/1000 strokes | : | 2.5 | |
| Volt | : | 12 | | † | Check tolerance cm3/1000s. | | 2.5 | |
| Rated speed rpm | • | 900 | | I | Shutoff solenoid | • | 2.5 | |
| Supply pomp | • | 700 | | 1 | Volt | : | 12 | |
| pressure bar | : | 5.0 | | + | | | | |
| Tolerance hPa | : | 0.3 | | + | Rated speed rpm | : | 900 | |
| Shutoff solenoid | _ | 12 | | † | Del. quantity | | 42.2 | |
| Volt | • | 12 | | I | cm3/1000 strokes Tolerance | : | 42.2 | |
| OVERFLOW QUANTITY | | | | 1 | cm3/1000 strokes | : | 1.5 | |
| | | | | + | Check tolerance | | | |
| | : | 2150 | | + | cm3/1000s. | : | 2.5 | |
| Overflow quantity | | 07.0 | | + | Shutoff solenoid | | 10 | |
| ccm/10s Tolerance | : | 97.2 | | İ | Volt | : | 12 | |
| ccm/10s | • | 41.6 | | I | Rated speed rpm | : | 1200 | |
| Jun 100 | • | ., | | + | Del. quantity | • | | |
| Check tolerance | | | | + | cm3/1000 strokes | : | 43.2 | |
| ccm/10s | : | 41.6 | | + | Tolerance | | 4 ~ | |
| Shutoff solenoid | | 12 | | † | | : | 1.5 | |
| Volt | : | 12 | | I | Check tolerance cm3/1000s. | : | 2.5 | |
| | | | | ı | J.1107 (GOOD : | • | د. ب | |

| Shutoff solenoid | | | + Spread | | | | |
|--|---------------------------------|---|---|---|---|--|------|
| Volt | : | 12 | + cm3/1000 str | okes | : | 5.0 | |
| | | | + | | | | |
| Rated speed rpm | : | 1800 | → IDLE DELIVER | Y. | | | |
| Del. quantity | | | + | | | | |
| cm3/1000 strokes | : | 44.3 | + Rated speed | rpm | : | 800 | |
| Tolerance | | | + Del. quantit | y | | | |
| cm3/1000 strokes | : | 1.5 | + cm3/1000 str | okes | : | 2.5 | |
| Check tolerance | | | † Tolerance | | | | |
| cm3/1000s. | : | 2.5 | + cm3/1000 str | | : | 2.5 | |
| Shutoff solenoid | | | + Check tolera | nce | | | |
| Volt | : | 12 | + cm3/1000s. | | : | 2.5 | |
| | | | + Shutoff sole | noid | | | |
| Rated speed rpm | : | 600 | + Volt | | : | 12 | |
| Del. quantity | | | + | | | | |
| cm3/1000 strokes | : | 41.0 | + Rated speed | rpm | : | 500 | |
| Tolerance | | | + Del. quantit | У | | | |
| cm3/1000 strokes | : | 1.5 | + cm3/1000 str | okes | : | 1.5 | |
| Check tolerance | | | † Tolerance | | | | |
| cm3/1000s. | : | 2.5 | + cm3/1000 str | | : | 1.5 | |
| Shutoff solenoid | | | + Check tolera | nce | | | |
| Volt | : | 12 | + cm3/1000s. | | : | 1.5 | |
| | | | + Shutoff sole | noid | | | |
| Rated speed rpm | : | 2150 | + Volt | | : | 12 | |
| Del. quantity | | | + | | | | |
| cm3/1000 strokes | : | 44.5 | + | | | | |
| Tolerance | | | + | | | | |
| cm3/1000 strokes | : | 0.5 | + | | | | |
| Check tolerance | | | } | | | | |
| 7 /40000 | | 1.3 | <u> </u> | | | | |
| cm3/1000S. | : | 1.5 | | | | | |
| Shutoff solenoid | : | 1.5 | EXHAUST-GAS | RECIRO | CULA | ΓΊΟΝ | |
| | : | 1.3 | EXHAUST-GAS I | RECIRO | ULA | ΓΊΟΝ | |
| Shutoff solenoid | : : | | + Del. quantity | У | | | |
| Shutoff solenoid | : | | + | У | | TION 0.80 | |
| Shutoff solenoid | : | | Del. quantity cm3/1000 stro | y okes | : | 0.80 | |
| Shutoff solenoid | : | | Del. quantity cm3/1000 str | y okes | : | | |
| Shutoff solenoid Volt | : : | 12 | Del. quantity cm3/1000 stro | y okes okes | : | 0.80 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF | : : | 12 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro | y okes okes | : | 0.80 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF | : : : : : | 12 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. | y okes okes nce | : | 0.80 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity | • | 12 STOP 375 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran | y okes okes nce | : | 0.80 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes | • | 12 STOP | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. | y okes okes nce | : | 0.80 0.02 0.10 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : | 12 STOP 375 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000S. START TRANSI | y okes okes nce TION | : | 0.80 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 12 STOP 375 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000S. START TRANSI Rated speed a Del. quantity | y okes okes nce TION | : : | 0.80 0.02 0.10 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 12 STOP 375 1.5 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro | y okes okes nce TION | : : | 0.80 0.02 0.10 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 12 STOP 375 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance | y okes okes nce TION rpm y okes | : | 0.80 0.02 0.10 400 45.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : | 12 STOP 375 1.5 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro | y okes okes nce TION rpm y okes | : | 0.80 0.02 0.10 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 12 STOP 375 1.5 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler | y okes okes nce TION rpm y okes | : | 0.80 0.02 0.10 400 45.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : | 12 STOP 375 1.5 1.5 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro | y okes okes nce TION rpm y okes | : | 0.80 0.02 0.10 400 45.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : | 12 STOP 375 1.5 1.5 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler | y okes okes nce TION rpm y okes | : | 0.80 0.02 0.10 400 45.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : | 12 STOP 375 1.5 1.5 5.0 DL LEVER | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler | y okes okes nce TION rpm y okes | : | 0.80 0.02 0.10 400 45.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : | 12 STOP 375 1.5 1.5 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler | y okes okes nce TION rpm y okes okes | : | 0.80 0.02 0.10 400 45.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CO | : : : : NTRO | 12 STOP 375 1.5 1.5 5.0 DL LEVER 375 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt | y okes okes nce TION rpm y okes okes ohoid | : | 0.80 0.02 0.10 400 45.0 20.0 12 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORRATED STOP | : : : : NTRO | 12 STOP 375 1.5 1.5 5.0 DL LEVER | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a | y okes okes nce TION rpm y okes okes okes | : | 0.80 0.02 0.10 400 45.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP COR Rated speed rpm Del. quantity | : : : : NTRO | 12 STOP 375 1.5 1.5 5.0 DL LEVER 375 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a Del. quantity | y okes okes nce TION rpm y okes okes okes | : | 0.80 0.02 0.10 400 45.0 20.0 12 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP COR Rated speed rpm Del. quantity cm3/1000 strokes | : : : : : NTRO | 12 STOP 375 1.5 1.5 5.0 DL LEVER 375 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a Del. quantity cm3/1000 stro | y okes okes nce TION rpm y okes okes ohoid rpm y okes | : | 0.80 0.02 0.10 400 45.0 20.0 12 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP COR Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : : NTRO | 12 STOP 375 1.5 1.5 5.0 DL LEVER 375 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a Del. quantity cm3/1000 stro Tolerance Tolerance Tolerance Tolerance | y okes okes okes TION rpm y okes okes object of the property okes okes okes | : | 0.80 0.02 0.10 400 45.0 20.0 12 270 70.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes FULL-LOAD STOP COR Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : : : : : NTRC | 12 STOP 375 1.5 1.5 5.0 DL LEVER 375 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Tolerance cm3/1000 stro Tolerance cm3/1000 stro | y okes okes okes TION rpm y okes okes object of the property okes okes okes | : | 0.80 0.02 0.10 400 45.0 20.0 12 270 70.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP COR Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread | : : : : : NTRC | 12 STOP 375 1.5 1.5 5.0 OL LEVER 375 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a Del. quantity cm3/1000 stro Shutoff soler Tolerance cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Shutoff soler | y okes okes okes TION rpm y okes okes object of the property okes okes okes | : | 0.80 0.02 0.10 400 45.0 20.0 12 270 70.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes FULL-LOAD STOP COR Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes | : : : : : NTRC | 12 STOP 375 1.5 1.5 5.0 OL LEVER 375 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a Del. quantity cm3/1000 stro Shutoff soler Tolerance cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Shutoff soler | y okes okes okes TION rpm y okes okes object of the property okes okes okes | : | 0.80 0.02 0.10 400 45.0 20.0 12 270 70.0 20.0 | |
| Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spread cm3/1000 strokes FULL-LOAD STOP CORRATED STOP CORRATED STOP CORRATED STORES Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance | : : : : : : : | 12 STOP 375 1.5 1.5 5.0 DL LEVER 375 1.5 1.5 | Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Check toleran cm3/1000s. START TRANSI Rated speed a Del. quantity cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Volt Rated speed a Del. quantity cm3/1000 stro Shutoff soler Tolerance cm3/1000 stro Tolerance cm3/1000 stro Shutoff soler Shutoff soler | y okes okes nce TION rpm y okes ohoid rpm y kes ohoid | : | 0.80 0.02 0.10 400 45.0 20.0 12 270 70.0 20.0 12 | IONS |

Dimension K mm : 3,3
Tolerance mm : +-0,1
Dimension KF mm : 5,4
Tolerance mm : +-0,2
Dimension MS mm : 1,2
Tolerance mm : +0,2
KSB travel mm : 4,3
TLA travel mm : 6,5

POTENTIOMETER SET

1. measurement

voltage Volt : 5,0

1. measurement

voltage Volt : 0,8

CONTROL LEVER POSITION SET

Control lever

position YA mm : 35,1..39,1

Control lever

position YB mm : 56,9..68,1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.07.96 Edition : ISO 4113 Test oil

: 0 460 423 002 Part no. Pump designation : VE3/12F1125R532

Customer-spec. information : MWM Customer

: TD 226-B3 Motor Power KW 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.75

Inlet press. bar : 0.35 Tolerance bar

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar 250 Tolerance bar 3

: 1 680 750 000 Test lines

Outside diameter : 6.00

x inside diameter: 2.00 x length mm 840 :

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 1,04

Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 600

Setting mm 3.0 Tolerance mm 0.2 Shutoff solenoid 12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 600

5.0 Setting hPa : Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 91.0 Tolerance

cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 4.0

Shutoff solenoid

Volt 12

IDLE SETTING

Rated speed rpm 375 Del. quantity

cm3/1000 strokes : 21.0

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid Volt

12 Spread cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s.6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm :

1125

Del. quantity

cm3/1000 strokes : 63.5

Tolerance

cm3/1000 strokes : 3.0

| Shutoff solenoid | | | + | Overflow quantity | / | | |
|-----------------------|-------|----------------|--------------|-------------------|------------|--------------------|-----|
| Volt | : | 12 | 1 | ccm/10s | : | 152.7 | |
| | | | + | Tolerance | | | |
| | | | 1 | ccm/10s | : | 41.6 | |
| SET GRADUATED STA | RTIN | G DELIVERY | 1 | | _ | | |
| CONTROL LEVER, ID | | | 1 | Check tolerance | | | |
| | - | | 1 | ccm/10s | • | 41.6 | |
| Rated speed rpm | : | 100 | 1 | Shutoff solenoid | • | 11.0 | |
| Del. quantity | • | 100 | 1 | Volt | | 12 | |
| cm3/1000 strokes | • | 100.0 | \mathbf{I} | 1000 | • | 12 | |
| Tolerance | • | 100.0 | 1 | Rated speed rpm | : | 400 | |
| cm3/1000 strokes | | 1.0 | I | Overflow quantity | | 400 | |
| Shutoff solenoid | • | 1.0 | <u> </u> | ccm/10s | ' . | 111.1 | |
| Volt | | 12 | 7 | Tolerance | • | 111.1 | |
| VOCE | • | 12 | T | | | 22.2 | |
| | | | Ť | ccm/10s | : | 22.2 | |
| | | | † | Charle I in a | | | |
| | | | † | Check tolerance | | 22.2 | |
| | | | † | ccm/10s | : | 22.2 | |
| INJECTION-PUMP TE | :ST S | PECIFICATIONS | + | Shutoff solenoid | | 4.5 | |
| | | | + | Volt | : | 12 | |
| TIMING DEVICE CHA | IRACT | ERISTIC | + | | | | |
| | | | + | DELIVERY AND BREA | KAW. | AY CHARACTERIST | TIC |
| Rated speed rpm | : | 700 | + | | | | |
| | | | + | Rated speed rpm | : | 1125 | |
| SV travel mm | : | 4,4 | + | Del. quantity | | | |
| Tolerance mm | : | 0.4 | + | cm3/1000 strokes | : | 63.5 | |
| Check | | | + | Tolerance | | | |
| tolerance mm | : | 0.8 | + | cm3/1000 strokes | : | 3.0 | |
| Shutoff solenoid | | | į. | Check tolerance | | | |
| Volt | : | 12 | 1 | cm3/1000s. | : | 8.5 | |
| | | | 1 | Shutoff solenoid | | | |
| Rated speed rpm | : | 500 | 1 | Volt | : | 12 | |
| videa opera vp | · | | 1 | | - | | |
| SV travel mm | • | 1.3 | 1 | Rated speed rpm | : | 1200 | |
| Tolerance mm | • | 0.4 | 1 | Del. quantity | • | .200 | |
| Check | • | 3. , | 1 | cm3/1000 strokes | : | 7.5 | |
| tolerance mm | | 0.8 | 1 | Check tolerance | • | 1.3 | |
| Shutoff solenoid | • | 0.0 | 1 | cm3/1000s. | | 7.5 | |
| Volt | | 12 | \mathbf{I} | Shutoff solenoid | • | 1.5 | |
| VOCE | • | 12 | T | | | 10 | |
| CLIDDLY BUMD DDECC | ייטר | CUADACTEDICTIC | T | Volt | • | 12 | |
| SUPPLY PUMP PRESS | UKE | CHAKACIEKT211C | Ť | Datad assad ass | | 1250 | |
| Damad amazal ama | | 1050 | † | Rated speed rpm | : | 1250 | |
| Rated speed rpm | : | 1050 | † | Del. quantity | _ | 1 E | |
| Supply pomp | | 0.0 | † | cm3/1000 strokes | : | 1.5 | |
| pressure bar | : | 8.0 | † | Tolerance | | 4 - | |
| Tolerance hPa | : | 0.3 | † | cm3/1000 strokes | : | 1.5 | |
| Shutoff solenoid | | | † | Check tolerance | | | |
| Volt | : | 12 | + | cm3/1000s. | : | 1.5 | |
| | | | + | Shutoff solenoid | | | |
| Rated speed rpm | : | 400 | + | Volt | : | 12 | |
| Supply pomp | | | + | | | | |
| pressure bar | : | 3.7 | + | Rated speed rpm | : | 1150 | |
| Tolerance hPa | : | 0.3 | + | Del. quantity | | | |
| Shutoff solenoid | | | + | cm3/1000 strokes | : | 34.0 | |
| Volt | : | 12 | 1 | Tolerance | | | |
| | | | 1 | cm3/1000 strokes | : | 15.0 | |
| OVERFLOW QUANTITY | | | 1 | Check tolerance | - | - - | |
| Committee of Springer | | | 1 | cm3/1000S. | : | 15.0 | |
| Rated speed rpm | : | 1050 | 1 | Shutoff solenoid | - | · = • • | |
| Hatta opeca (pill | • | | 1 | Volt | : | 12 | |
| | | | ľ | , , , , | • | . ~ | |

| | | | ſ. | | | | |
|--------------------------------------|---|-------------|----|-------------------------------------|----------|---------|--|
| Rated speed rpm | : | 1050 | Į | | | | |
| Del. quantity | | 8/ 0 | + | ELECTR. SHUTOFF | | | |
| cm3/1000 strokes Tolerance | : | 84.0 | 1 | CONTROL LEVER, II | DLE SI | OP | |
| cm3/1000 strokes | : | 1.5 | + | Rated speed rpm | : | 375 | |
| Check tolerance | | 7.0 | + | Del. quantity | | 1 - | |
| cm3/1000s. Shutoff solenoid | ; | 3.0 | I | cm3/1000 strokes Tolerance | : | 1.5 | |
| Volt | : | 12 | + | cm3/1000 strokes | : | 1.5 | |
| Datad aread are | | 400 | † | Check tolerance | | 1 - | |
| Rated speed rpm Del. quantity | : | 600 | Ī | cm3/1000S. Spread | : | 1.5 | |
| cm3/1000 strokes | : | 92.0 | + | cm3/1000 strokes | : | 5.0 | |
| Tolerance cm3/1000 strokes | | 3.0 | † | FULL LOAD STOD CO | MITOO | 1 5750 | |
| Check tolerance | : | 3.0 | I | FULL-LOAD STOP CO | JIVI KUL | . LEVER | |
| cm3/1000s. | : | 5.5 | + | Rated speed rpm | : | 375 | |
| Shutoff solenoid | | 12 | + | Del. quantity cm3/1000 strokes | _ | 1 5 | |
| Volt | : | 12 | Ī | Tolerance | • | 1.5 | |
| Rated speed rpm | : | 400 | + | cm3/1000 strokes | : | 1.5 | |
| Del. quantity | | 87.5 | † | Spread | | 5.0 | |
| cm3/1000 strokes Tolerance | : | 01.5 | Ī | cm3/1000 strokes Check tolerance | : | 5.0 | |
| cm3/1000 strokes | : | 3.0 | ÷ | cm3/1000s. | : | 1.5 | |
| Check tolerance cm3/1000s. | | 4.0 | † | Spread cm3/1000 strokes | | 5.0 | |
| Shutoff solenoid | • | 4.0 | Ī | CMS/TODO STrokes | • | 3.0 | |
| Volt | : | 12 | + | IDLE DELIVERY | | | |
| Rated speed rpm | : | 800 | 1 | Rated speed rpm | : | 450 | |
| Del. quantity | • | 000 | Ţ | Del. quantity | • | 450 | |
| cm3/1000 strokes | : | 91.0 | + | cm3/1000 strokes | : | 1.5 | |
| Tolerance cm3/1000 strokes | : | 0.5 | 1 | Tolerance cm3/1000 strokes | : | 1.5 | |
| Check tolerance | • | 0.5 | Ţ | Check tolerance | • | 1.5 | |
| cm3/1000s. | : | 2.5 | + | cm3/1000s. | : | 1.5 | |
| Shutoff solenoid Volt | | 12 | Í | Shutoff solenoid Volt | • | 12 | |
| VOCE | • | 12 | Ţ | VOCE | • | 1 2 | |
| | | | + | | | | |
| MECHANICAL SHUTOF | ۲ | | ‡ | | | | |
| Rated speed rpm | : | 1050 | + | | | | |
| Del. quantity | | 4.5 | + | OTANT TRANSITION | | | |
| cm3/1000 strokes Tolerance | : | 1.5 | Ī | START TRANSITION | | | |
| cm3/1000 strokes | : | 1.5 | + | Rated speed rpm | : | 250 | |
| Spread | | 5.0 | + | Del. quantity | | 00.0 | |
| cm3/1000 strokes Check tolerance | : | 5.0 | 1 | cm3/1000 strokes Tolerance | : | 90.0 | |
| cm3/1000s. | : | 1.5 | + | cm3/1000 strokes | : | 20.0 | |
| Spread | | 5.0 | + | Shutoff solenoid | | 12 | |
| cm3/1000 strokes Shutoff solenoid | • | ٥.0 | I | Volt | • | 16 | |
| Volt | : | 12 | + | | | | |
| | | | + | Rated speed rpm | : | 180 | |
| | | | I | Del. quantity cm3/1000 strokes | : | 130.0 | |
| | | | ' | | | | |

Tolerance

cm3/1000 strokes : 20.0

Shutoff solenoid

Volt

12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

: 3,6 Dimension K mm Tolerance mm : +-0,1 Dimension KF mm : 6,4 Tolerance mm : +0,2 MS1 dimension mm : 1,1

Tolerance mm : +0,15/-0,1

CONTROL LEVER POSITION

SET

Control lever

position YA mm

: 41,4..45,4

Control lever

position YB mm : 37,5..43,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.02.96 Edition : ISO 4113 Test oil

Part no. : 0 460 426 220 Pump designation: VE6/12F1150R534

Customer-spec. information

: MWM Customer

: TD 226-B6 Motor Power KW 92.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.75

Inlet press. bar : 0.35Tolerance bar 0.05

Test nozzle holde

: 1 688 901 110 assembly

Opening pressure

250 bar 3 Tolerance bar

: 1 680 750 000 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 840 x length mm :

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

700 Rated speed rpm :

2.3 Setting mm Tolerance mm 0.2 Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 700

Setting hPa 5.9 Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

900 Rated speed rpm Del. quantity

cm3/1000 strokes : 68.0 Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes : 4.0 Shutoff solenoid

Volt 12

IDLE SETTING

Rated speed rpm 325 Del. quantity cm3/1000 strokes : 13.0 Tolerance

cm3/1000 strokes : Shutoff solenoid

Volt 12 Spread

3.0

12

cm3/1000 strokes : 3.5 Check tolerance

cm3/1000s. 6.5

FULL-LOAD SPEED REGULATION

Rated speed rpm 1150

Del. quantity cm3/1000 strokes : 61.0 Tolerance

cm3/1000 strokes : Shutoff solenoid

0.5

Volt

SET GRADUATED STARTING DELIVERY CONTROL LEVER, IDLE STOP

Rated speed rpm 100 :

| Del. quantity | | 1 | | | |
|-----------------------------------|------------------|---|-----|---------------|------|
| cm3/1000 strokes | : 90.0 | Rated speed rpm | : | 500 | |
| Tolerance | | + Overflow quantity | • | | |
| cm3/1000 strokes | : 1.0 | + ccm/10s | : | 125.0 | |
| Shutoff solenoid Volt | : 12 | + Tolerance + ccm/10s | : | 22.2 | |
| ٧٥٢١ | . 12 | T CCIII/ 105 | • | <i></i> | |
| | | + Check tolerance | | | |
| | | + ccm/10s | : | 22.2 | |
| INJECTION-PUMP TE | ST SPECIFICATIO | Shutoff solenoid Volt | | 12 | |
| 110001011 1011 10 | OF OF COTTON | + | • | 12 | |
| TIMING DEVICE CHA | ARACTERISTIC | DELIVERY AND BREA | KAW | AY CHARACTERI | STIC |
| Rated speed rpm | : 800 | Rated speed rpm Del. quantity | : | 1150 | |
| SV travel mm | : 3.6 | cm3/1000 strokes | : | 61.0 | |
| Tolerance mm | : 0.4 | + Tolerance | | | |
| Check tolerance mm | : 0.7 | + cm3/1000 strokes + Check tolerance | : | 0.5 | |
| Shutoff solenoid | . 0.7 | - cm3/1000s. | : | 3.0 | |
| Volt | : 12 | + Shutoff solenoid | • | | |
| . | | † Volt | : | 12 | |
| Rated speed rpm | : 600 | Rated speed rpm | | 1220 | |
| SV travel mm | : 0.7 | + Del. quantity | • | | |
| Tolerance mm | : 0.4 | cm3/1000 strokes | : | 7.5 | |
| Check | : 0.7 | + Check tolerance + cm3/1000s. | | 7.5 | |
| tolerance mm Shutoff solenoid | . 0.7 | Shutoff solenoid | • | 7.5 | |
| Volt | : 12 | + Volt | : | 12 | |
| | | + | | 4250 | |
| SUPPLY PUMP PRESS | SURE CHARACTERIS | [C + Rated speed rpm + Del. quantity | : | 1250 | |
| Rated speed rpm | : 1050 | cm3/1000 strokes | : | 1.5 | |
| Supply pomp | | Tolerance | | | |
| pressure bar | : 7.8 | + cm3/1000 strokes | : | 1.5 | |
| Tolerance hPa Shutoff solenoid | : 0.3 | + Check tolerance + cm3/1000s. | | 1.5 | |
| Volt | : 12 | + Shutoff solenoid | • | 1.5 | |
| | | + Volt | : | 12 | |
| Rated speed rpm | : 500 | † Botod opend non | | 1170 | |
| Supply pomp pressure bar | : 4.3 | Rated speed rpm Del. quantity | : | 1170 | |
| Tolerance hPa | : 0.3 | cm3/1000 strokes | : | 40.0 | |
| Shutoff solenoid | | + Tolerance | | | |
| Volt | : 12 | + cm3/1000 strokes + Check tolerance | : | 15.0 | |
| OVERFLOW QUANTITY | | + cm3/1000s. | : | 15.0 | |
| | | + Shutoff solenoid | | | |
| Rated speed rpm | | † Volt | : | 12 | |
| Overflow quantity ccm/10s | : 138.8 | Rated speed rpm | : | 1050 | |
| Tolerance | . 130.0 | + Del. quantity | • | 1030 | |
| ccm/10s | : 41.6 | cm3/1000 strokes | : | 67.5 | |
| Chark talamanas | | + Tolerance + cm3/1000 strokes | | 1.5 | |
| Check tolerance ccm/10s | : 41.6 | Check tolerance | • | 1.5 | |
| Shutoff solenoid | | - cm3/1000s. | : | 3.0 | |
| Volt | : 12 | + | | | |
| | | | | | |

| | | | • |
|--|--------------------------|--|---|
| Shutoff solenoid | | | + Check tolerance |
| Volt | : | 12 | + cm3/1000s. : 1.5 |
| | | | + Spread |
| Rated speed rpm | : | 600 | + cm3/1000 strokes : 5.0 |
| Del. quantity | | | 1 |
| cm3/1000 strokes | | 65.2 | FULL-LOAD STOP CONTROL LEVER |
| | • | 05.2 | T FOLL-LOAD STOP CONTROL LEVER |
| Tolerance | | 7.0 | 750 |
| cm3/1000 strokes | : | 3.0 | + Rated speed rpm : 350 |
| Check tolerance | | | + Del. quantity |
| cm3/1000s. | : | 4.0 | + cm3/1000 strokes : 1.5 |
| Shutoff solenoid | | | + Tolerance |
| Volt | : | 12 | + cm3/1000 strokes : 1.5 |
| | | | + Spread |
| Rated speed rpm | : | 500 | + cm3/1000 strokes : 5.0 |
| Del. quantity | • | 300 | + Check tolerance |
| cm3/1000 strokes | | 60.0 | |
| | • | 00.0 | |
| Tolerance | | | + Spread |
| cm3/1000 strokes | : | 3.0 | + cm3/1000 strokes : 5.0 |
| Check tolerance | | | + |
| cm3/1000s. | : | 4.0 | ∔ IDLE DELIVERY |
| Shutoff solenoid | | | |
| Volt | : | 12 | Rated speed rpm : 375 |
| | • | . • | Del. quantity |
| Rated speed rpm | : | 900 | + cm3/1000 strokes : 1.5 |
| Del. quantity | • | 700 | Tolerance |
| | _ | 40 0 | |
| cm3/1000 strokes | • | 68.0 | + cm3/1000 strokes : 1.5 |
| Tolerance | | | + Check tolerance |
| cm3/1000 strokes | : | 0.5 | + cm3/1000s. : 1.5 |
| Check tolerance | | | + Shutoff solenoid |
| c m3/1000 S. | : | 2.5 | + Volt : 12 |
| Shutoff solenoid | | | + |
| Volt | : | 12 | } |
| | | | } |
| | | | |
| MECHANICAL SHUTOF | F | | |
| | | | 1 |
| Rated speed rpm | • | 1150 | + START TRANSITION |
| Del. quantity | • | 1130 | 1 |
| vet. qualitity | | | 7 |
| | | 1 5 | l Dated speed nom . 250 |
| cm3/1000 strokes | : | 1.5 | Rated speed rpm : 250 |
| cm3/1000 strokes Tolerance | | | + Del. quantity |
| cm3/1000 strokes Tolerance cm3/1000 strokes | | 1.5 1.5 | + Del. quantity + cm3/1000 strokes : 60.0 |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread | : | 1.5 | Del. quantity cm3/1000 strokes : 60.0 Tolerance |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes | : | 1.5 | <pre>Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0</pre> |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance | : | 1.5 5.0 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes | : | 1.5 | <pre>Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0</pre> |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. | : | 1.5 5.0 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread | : | 1.5 5.0 1.5 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : | 1.5 5.0 1.5 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid | : | 1.5 5.0 1.5 5.0 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : | 1.5 5.0 1.5 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid | : | 1.5 5.0 1.5 5.0 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt | : | 1.5 5.0 1.5 5.0 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF | : | 1.5 5.0 1.5 5.0 12 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt | : | 1.5 5.0 1.5 5.0 12 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : : : | 1.5 5.0 1.5 5.0 12 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF | : : : : | 1.5 5.0 1.5 5.0 12 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : : : | 1.5 5.0 1.5 5.0 12 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity | : : : : LE S | 1.5 5.0 1.5 5.0 12 STOP 350 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes | : : : : LE S | 1.5 5.0 1.5 5.0 12 STOP 350 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : LE S | 1.5 5.0 1.5 5.0 12 STOP 350 1.5 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| cm3/1000 strokes Tolerance cm3/1000 strokes Spread cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes | : : : : LE S | 1.5 5.0 1.5 5.0 12 STOP 350 1.5 | Del. quantity cm3/1000 strokes : 60.0 Tolerance cm3/1000 strokes : 15.0 Shutoff solenoid Volt : 12 Rated speed rpm : 160 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : 20.0 Shutoff solenoid Volt : 12 |

Dimension KF mm : 6,4 Tolerance mm : +-0,2 MS1 dimension mm : 1,1

Tolerance mm : +0,15/-0,1

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 41,4..45,4

Control lever

position YB mm : 40,6..46,4

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.07.96 : ISO 4113 Test oil

: 0 460 414 140 Part no. Pump designation : VE4/11F2100R683

Customer-spec. information : PSA Customer : DJ5 TED Motor Power KW 80.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 55 Tolerance °C

Overflow

restriction mm 0.75

0.35 Inlet press. bar : Tolerance bar 0.05

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

207 bar Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,88 Tolerance mm : +0.05Outlet : B

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 1500

Aneroid pressure

hPa 1200

3.5 Setting mm Tolerance mm 0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm 1500

Aneroid pressure

hPa 1200

Setting hPa 7.5 Tolerance hPa 0.2

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

45.4

Rated speed rpm 1250 Aneroid pressure

hPa 1200 Del. quantity

cm3/1000 strokes :

Tolerance cm3/1000 strokes : 0.5

Spread cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. 4.0 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 34.6

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid Volt

12

Check tolerance cm3/1000s.

4.0

| | IQUATIO ETVEN TO | E CORTNO | + Tolerance mm : | 0.4 |
|---|--|-------------------|--|------------|
| | HOUSING-FIXED IDL RESIDUAL QUANTITY | | + Check + tolerance mm : | 0.7 |
| | Rated speed rpm Del. quantity | : 500 | + Shutoff solenoid + Volt : | 12 |
| (| cm3/1000 strokes Tolerance | : 14.3 | Rated speed rpm : | 1000 |
| (| cm3/1000 strokes Shutoff solenoid | : 1.0 | + Aneroid pressure + hPa : | 1200 |
| | Volt | : 12 | SV travel mm : Tolerance mm : | 0.7 0.4 |
| ı | FULL-LOAD SPEED R | REGULATION | + Check | 0.7 |
| | Rated speed rpm | : 2250 | tolerance mm : Shutoff solenoid | |
| E | Pressure hPa Del. quantity | : 1200 | + Volt : | 12 |
| 1 | cm3/1000 strokes Tolerance | | + SUPPLY PUMP PRESSURE | |
| 5 | cm3/1000 strokes Shutoff solenoid | | Rated speed rpm : Aneroid pressure | |
| | /olt | : 12 | + hPa : + Supply pomp | 1200 |
| S | STARTING FUEL DEL | IVERY | + pressure bar : + Tolerance hPa : | 9.2 0.3 |
| | Rated speed rpm Del. quantity | : 100 | Shutoff solenoid Volt : | 12 |
| | cm3/1000 strokes Tolerance | : 98.0 | Rated speed rpm : | 750 |
| | cm3/1000 strokes Shutoff solenoid | : 25.0 | Aneroid pressure | 1200 |
| | /olt | : 12 | Supply pomp pressure bar : | 5.5 |
| | | | Tolerance hPa : Shutoff solenoid | 0.3 |
| | OAD-DEPENDENT ST | ART OF DELIVERY | + Volt : | 12 |
| F | PRESSURE DIFFEREN | CE | + OVERFLOW QUANTITY | |
| R | Rated speed rpm | : 1500 | + Rated speed rpm : + Overflow quantity | |
| | Aneroid pressure Pa | : 1200 | + ccm/10s : + Tolerance | 138.8 |
| | el. quantity m3/1000 strokes | : -0.2 | + ccm/10s : | 41.6 |
| | olerance m3/1000 strokes | : 0.1 | + Check tolerance + ccm/10s : | 41.6 |
| | hutoff solenoid olt | : 12 | + Shutoff solenoid + Volt : | 12 |
| _ | | · | Rated speed rpm : | 500 |
| I | NJECTION-PUMP TES | ST SPECIFICATIONS | + Overflow quantity + ccm/10s : | 111.1 |
| T | IMING DEVICE CHAP | RACTERISTIC | Tolerance ccm/10s : | 20.8 |
| | ated speed rpm neroid pressure | : 2100 | Check tolerance | |
| | Pa | : 1200 | ccm/10s : Shutoff solenoid | 20.8 |
| S | V travel mm | : 6.8 | + Volt : | 12 |
| | | | | |

| NEI TVERY ANN PREA | AKAWAY CHARACTERISTIC | + Rated speed rpm + Aneroid pressur | | 1000 | |
|---|-----------------------|--|--------|------|--|
| Rated speed rpm | : 2250 | hPa Del. quantity | : | 1200 | |
| Aneroid pressure | : 1200 | + cm3/1000 stroke | s : | 48.6 | |
| Del. quantity | | Tolerance cm3/1000 stroke | | 2.0 | |
| cm3/1000 strokes Tolerance | | theck tolerance cm3/1000s. | : | 3.0 | |
| cm3/1000 strokes Check tolerance | | + Shutoff solenoi + Volt | a : | 12 | |
| cm3/1000s. Shutoff solenoid | | Rated speed rpm | | 500 | |
| Volt | : 12 | + Aneroid pressur + hPa | e : | 1200 | |
| Rated speed rpm Aneroid pressure | | + Del. quantity + cm3/1000 stroke | s: | 63.5 | |
| hPa Del. quantity | : 1200 | + Tolerance + cm3/1000 stroke | | 2.0 | |
| cm3/1000 strokes Check tolerance | | + Check tolerance + cm3/1000s. | : | 2.5 | |
| cm3/1000s. Shutoff solenoid | : 6.0 | + Shutoff solenoid + Volt | : : | 12 | |
| Volt | : 12 | Rated speed rpm | | 1250 | |
| Rated speed rpm Aneroid pressure | | + Aneroid pressur + hPa | e : | 1200 | |
| hPa Del. quantity | : 1200 | + Del. quantity + cm3/1000 stroke | s : | 45.4 | |
| cm3/1000 strokes Shutoff solenoid | | + Tolerance + cm3/1000 stroke | | 0.5 | |
| Volt | : 12 | + Check tolerance + cm3/1000s. | : | 2.5 | |
| Rated speed rpm Aneroid pressure | | + Shutoff solenoid + Volt | : | 12 | |
| hPa | : 500 | Ŧ | | | |
| LDA/ HBA stroke mm | : 6.3 | ELECTR. SHUTOFF | 7015 | 7700 | |
| | : 44.2 | + CONTROL LEVER, | | 400 | |
| Tolerance cm3/1000 strokes | : 0.5 | Rated speed rpm Del. quantity cm3/1000 strokes | : | 1.5 | |
| Check tolerance cm3/1000s. Shutoff solenoid | : 3.0 | Tolerance cm3/1000 strokes | | 1.5 | |
| Volt | : 12 | Check tolerance cm3/1000s. | | 1.5 | |
| Rated speed rpm Aneroid pressure | : 2100 | FULL-LOAD STOP | · | | |
| hPa Del. quantity | : 1200 | Rated speed rpm | : | 400 | |
| | : 49.5 | Del. quantity cm3/1000 strokes | | 1.5 | |
| cm3/1000 strokes Check tolerance | : 2.0 | Tolerance cm3/1000 strokes | | 1.5 | |
| cm3/1000s. Shutoff solenoid | : 3.0 | Check tolerance cm3/1000s. | | 1.5 | |
| Volt | : 12 | 1 10000. | • | 1 | |

| | | ‡ | Shutoff solenoid Volt | : | 12 |
|--|-----------------|---------------|-------------------------------------|-----|-------------|
| IDLE DELIVERY | | Ŧ | DELIVERY DIFFEREN | ICE | |
| Rated speed rpm Del. quantity | : 400 | $\frac{1}{1}$ | Rated speed rpm Aneroid pressure | : | 1500 |
| cm3/1000 strokes Tolerance | : 13.5 | Ŧ | hPa Del. quantity | : | 1200 |
| cm3/1000 strokes | : 3.0 | <u> </u> | cm3/1000 strokes Tolerance | : | 34.0 |
| | | | cm3/1000 strokes | : | 2.0 |
| CHECKING LOAD-DEF START OF DELIVERY | | ‡ | Check tolerance cm3/1000s. | : | 3.0 |
| DELIVERY DIFFEREN | NCE | ‡ | Shutoff solenoid Volt | : | 12 |
| Rated speed rpm Aneroid pressure | : 1500 | <u> </u> | TIMING-DEVICE TRA | VE | DIFFERENCE |
| hPa | : 1200 | + | | | |
| Del. quantity cm3/1000 strokes | : 35.5 | ‡ | Rated speed rpm Aneroid pressure | : | 1500 |
| Tolerance cm3/1000 strokes | : 0.5 | , | hPa Tolerance mm | : | 1200 0.1 |
| Shutoff solenoid | : 12 | + | Check tolerance mm | : | 0.1 |
| DELIVERY DIFFEREN | | + | Shutoff solenoid Volt | : | 12 |
| Rated speed rpm | | † | | | |
| Aneroid pressure | | + | EXHAUST-GAS RECIR | CUL | ATION |
| hPa Del. quantity | : 1200 | ‡ | Rated speed rpm | : | 1250 |
| cm3/1000 strokes | : 34.0 | | Aneroid pressure | • | |
| Tolerance cm3/1000 strokes | : 2.0 | ÷ | hPa Del. quantity | · | 1200 |
| Check tolerance cm3/1000s. | : 3.0 | | cm3/1000 strokes Tolerance | : | 31.0 |
| Shutoff solenoid | | + | cm3/1000 strokes | : | 1.0 |
| Volt | : 12 | | Check tolerance cm3/1000s. | : | 2.5 |
| DELIVERY DIFFEREN | CE | + | Shutoff solenoid Volt | | 12 |
| Rated speed rpm | : 1500 | + | | • | 16 |
| Aneroid pressure nPa | : 1200 | ‡ | START TRANSITION | | |
| Del. quantity cm3/1000 strokes | | | Rated speed rpm Del. quantity | : | 430 |
| Tolerance | | + | cm3/1000 strokes Tolerance | : | 34.0 |
| Check tolerance | | + | cm3/1000 strokes | : | 15.0 |
| cm3/1000S. Shutoff solenoid | : 3.0 | | Shutoff solenoid Volt | : | 12 |
| /olt | : 12 | <u> </u> | | | |
| riming-device tra | VEL DIFFERENCE | | Rated speed rpm Del. quantity | : | 255 |
| Rated speed rpm Aneroid pressure | : 1500 | + | cm3/1000 strokes Tolerance | : | 69.0 |
| nPa Tolerance mm | : 1200 : 0.3 | | cm3/1000 strokes | : | 15.0 |
| Oteranie imi | . 0.7 | 1 | | | |

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm

: 6.3 : 3,3 : +-0,1 : 8,4 : +-0,2 Dimension K mm Tolerance mm Dimension KF mm Tolerance mm

MICROSWITT.

SET

: ARF 12,0

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 19,1..23,1

Control lever

position YB mm : 73,0..87,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.07.96 : ISO 4113 Test oil

: 0 460 414 156 Part no. Pump designation : VE4/11F2100R683-1

Customer-spec. information Customer : PSA Moter : DJ5 TED Power KW 79.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 55 Tolerance °C 1

Overflow

0.75 restriction mm

0.35 Inlet press. bar : Tolerance bar

Test nozzle holde

: 1 688 901 114 assembly

Opening pressure

207 bar Tolerance bar 3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm 450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

1500 Rated speed rpm

Aneroid pressure

1200 hPa

Setting mm 3.5 Tolerance mm 0.2

Shutoff solenoid

12 Volt

SUPPLY PUMP PRESSURE

Rated speed rpm 1500

Aneroid pressure

hPa 1200

Setting hPa 7.5 Tolerance hPa 0.2

Shutoff solenoid Volt

12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

45.4

Rated speed rpm 1250 Aneroid pressure

hPa

1200 Del. quantity

cm3/1000 strokes :

Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes : 2.0

Check tolerance cm3/1000s.

4.0

Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 34.6

Tolerance

cm3/1000 strokes 0.5

Shutoff solenoid

12 Volt

Check tolerance

cm3/1000s.4.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 14.3

Tolerance

cm3/1000 strokes : 1.0

| Shutoff solenoid | | | 1 | |
|---|-------------------|--|---|---|
| Volt | | 12 | SV travel mm : 0 | 1.7 |
| VOCE | • | 12 | |). 4 |
| FULL-LOAD SPEED R | FGUI | ATTON | + Check | · · · |
| TOLL LOND OF LLD TO | | 511 2011 | | 1.7 |
| Rated speed rpm | : | 2250 | + Shutoff solenoid | . • • |
| Pressure hPa | : | 1200 | | 12 |
| Del. quantity | | | + | |
| cm3/1000 strokes | : | 39.0 | → SUPPLY PUMP PRESSURE CHARA | CTERISTIC |
| Tolerance | | | + | |
| cm3/1000 strokes | : | 2.0 | + Rated speed rpm : 2100 | 1 |
| Shutoff solenoid | | | + Aneroid pressure | |
| Volt | : | 12 | 1 | :00 |
| | | | + Supply pomp | |
| STARTING FUEL DEL | .IVER | Y | · · · · · · · · · · · · · · · · · · · | .2 |
| | | 400 | | .3 |
| Rated speed rpm | : | 100 | + Shutoff solenoid | 4.0 |
| Del. quantity | | 00.0 | † Volt : | 12 |
| cm3/1000 strokes | : | 98.0 | 750 | |
| Tolerance | | 25.0 | + Rated speed rpm : 750 | |
| cm3/1000 strokes Shutoff solenoid | • | 25.0 | + Aneroid pressure + hPa : 12 | 00 |
| Volt | | 12 | + Supply pomp | UU |
| VOCE | • | 12 | + pressure bar : 5 | .5 |
| | | | | .3 |
| | | | + Shutoff solenoid | |
| LOAD-DEPENDENT ST | ART | OF DELIVERY | | 12 |
| SETTING | | 01 000000000000000000000000000000000000 | 1 | |
| 32.72.73 | | | + OVERFLOW QUANTITY | |
| PRESSURE DIFFEREN | CE | | + | |
| | | | Rated speed rpm : 2100 | |
| Rated speed rpm | : | 1500 | ↓ Overflow quantity | |
| Aneroid pressure | | | + ccm/10s : 138 | .8 |
| | | 4200 | i - i | |
| hPa | : | 1200 | + Tolerance | |
| hPa Del. quantity | : | | + loterance + ccm/10s : 41 | |
| hPa Del. quantity cm3/1000 strokes | : | -0.2 | ccm/10s : 41 | |
| hPa Del. quantity cm3/1000 strokes Tolerance | | -0.2 | ccm/10s : 41 Check tolerance | .6 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | | | ccm/10s : 41 | .6 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | | -0.2 0.1 | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid | .6 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | | -0.2 | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid | .6 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | | -0.2 0.1 | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : | .6 .6 12 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | : | -0.2 0.1 12 | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 | .6 .6 12 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : | -0.2 0.1 12 | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity | .6 .6 12 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE | : : ST SI | -0.2 0.1 12 PECIFICATIONS | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 | .6 .6 12 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | : : ST SI | -0.2 0.1 12 PECIFICATIONS | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance | .6 .6 12 .1 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA | : : ST SI | -0.2 0.1 12 PECIFICATIONS | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 | .6 .6 12 .1 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC | ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance | .6 .6 12 .1 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 | .6 .6 12 .1 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid | .6 .6 12 .1 .8 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid | .6 .6 12 .1 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid Volt : | .6 .6 12 .1 .8 .8 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 0.4 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid | .6 .6 12 .1 .8 .8 |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid Volt : DELIVERY AND BREAKAWAY CHAR | .6 .6 12 .1 .8 .8 12 RACTERISTIC |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 0.4 0.7 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid Volt : DELIVERY AND BREAKAWAY CHAR | .6 .6 12 .1 .8 .8 12 RACTERISTIC |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 0.4 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid Volt : DELIVERY AND BREAKAWAY CHAR | .6 .6 12 .1 .8 .8 12 RACTERISTIC |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt | : ST SI RACTI : : | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 0.4 0.7 12 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid Volt : DELIVERY AND BREAKAWAY CHAR Rated speed rpm : 2250 Aneroid pressure hPa : 120 | .6 .6 12 .1 .8 .8 12 RACTERISTIC |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm | : : ST SI | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 0.4 0.7 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid Volt : DELIVERY AND BREAKAWAY CHAR Rated speed rpm : 2250 Aneroid pressure hPa : 120 Del. quantity | .6 .6 12 .1 .8 .8 12 RACTERISTIC |
| hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt INJECTION-PUMP TE TIMING DEVICE CHA Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt | : ST SI RACTI : : | -0.2 0.1 12 PECIFICATIONS ERISTIC 2100 1200 6.8 0.4 0.7 12 | Check tolerance ccm/10s : 41 Check tolerance ccm/10s : 41 Shutoff solenoid Volt : Rated speed rpm : 500 Overflow quantity ccm/10s : 111 Tolerance ccm/10s : 20 Check tolerance ccm/10s : 20 Shutoff solenoid Volt : DELIVERY AND BREAKAWAY CHAR Rated speed rpm : 2250 Aneroid pressure hPa : 120 | .6 .6 12 .1 .8 .8 12 RACTERISTIC |

| Tolerance | | | 1 | | | | |
|---|---|-------------|--------------|--|------|---------------------------------------|--|
| cm3/1000 strokes Check tolerance | : | 2.0 | - | Rated speed rpm Aneroid pressure | : | 500 | |
| cm3/1000s. Shutoff solenoid | : | 5.0 | Ŧ | hPa | : | 1200 | |
| Volt | : | 12 | 7 | Del. quantity cm3/1000 strokes Tolerance | : | 63.5 | |
| Rated speed rpm Aneroid pressure | : | 2400 | Ŧ | cm3/1000 strokes Check tolerance | : | 2.0 | |
| hPa Del. quantity | : | 1200 | Ī | cm3/1000s. Shutoff solenoid | : | 2.5 | |
| cm3/1000 strokes Check tolerance | : | 22.0 | 1 | Volt | : | 12 | |
| cm3/1000s. Shutoff solenoid | : | 6.0 | 1 | Rated speed rpm Aneroid pressure | : | 1250 | |
| Volt | : | 12 | + | hPa Del. quantity | : | 1200 | |
| Rated speed rpm Aneroid pressure | : | 2600 | + | cm3/1000 strokes Tolerance | : | 45.4 | |
| hPa Del. quantity | : | 1200 | + | cm3/1000 strokes Check tolerance | : | 0.5 | |
| cm3/1000 strokes Shutoff solenoid | : | 1.5 | + | cm3/1000S. Shutoff solenoid | : | 2.5 | |
| Volt | : | 12 | + | Volt | : | 12 | |
| Rated speed rpm Aneroid pressure | : | 750 | + | | | | |
| hPa Del. quantity | : | 500 | + | ELECTR. SHUTOFF CONTROL LEVER, ID | LE S | STOP | |
| cm3/1000 strokes Tolerance | | 44.2 | + | Rated speed rpm | : | 400 | |
| cm3/1000 strokes Check tolerance | : | 0.5 | + | Del. quantity cm3/1000 strokes | : | 1.5 | |
| cm3/1000S. Shutoff solenoid | : | 3.0 | + | Tolerance cm3/1000 strokes | : | 1.5 | |
| Volt | : | 12 | ‡ | Check tolerance cm3/1000S. | : | 1.5 | |
| Aneroid pressure | : | | ‡ | FULL-LOAD STOP CO | NTRO | L LEVER | |
| hPa Del. quantity | : | 1200 | ‡ | Rated speed rpm | : | 400 | |
| cm3/1000 strokes Tolerance | : | 49.5 2.0 | ‡ | Del. quantity cm3/1000 strokes | : | 1.5 | |
| cm3/1000 strokes Check tolerance cm3/1000s. | • | 3.0 | 7 | Tolerance cm3/1000 strokes Check tolerance | : | 1.5 | |
| Shutoff solenoid Volt | • | 12 | $ar{1}$ | cm3/1000s. | : | 1.5 | |
| Rated speed rpm | : | 1000 | 1 | | | | |
| Aneroid pressure | • | 1200 | 1 | | | · · · · · · · · · · · · · · · · · · · | |
| Del. quantity cm3/1000 strokes | : | 48.6 | ‡ | IDLE DELIVERY | | | |
| Tolerance cm3/1000 strokes | : | 2.0 | ‡ | Rated speed rpm Del. quantity | : | 400 | |
| Check tolerance cm3/1000s. | : | 3.0 | + | cm3/1000 strokes Tolerance | : | 13.5 | |
| Shutoff solenoid Volt | : | 12 | ‡ | cm3/1000 strokes | : | 3.0 | |
| | | | | | | | |

| Shutoff solenoid Volt | : 12 | + Aneroid pressure + hPa : 1200 + Del. quantity |
|--|--------|---|
| | | - + cm3/1000 strokes : 34.0 |
| CHECKING LOAD-DEP START OF DELIVERY | | <pre>+ Tolerance + cm3/1000 strokes : 2.0 + Check tolerance</pre> |
| DELIVERY DIFFEREN | | + cm3/1000s. : 3.0 |
| Rated speed rpm Aneroid pressure | | + Shutoff solenoid + Volt : 12 |
| hPa Del. quantity | : 1200 | + TIMING-DEVICE TRAVEL DIFFERENCE |
| cm3/1000 strokes Tolerance | : 35.5 | Rated speed rpm : 1500 |
| cm3/1000 strokes | : 0.5 | + Aneroid pressure |
| Shutoff solenoid Volt | : 12 | + hPa : 1200 + Tolerance mm : 0.1 |
| DELIVERY DIFFEREN | CE | + Check + tolerance mm : 0.1 |
| | | Shutoff solenoid |
| Rated speed rpm Aneroid pressure | : 1500 | + Volt : 12 |
| hPa | : 1200 | |
| Del. quantity | : 34.0 | + EXHAUST-GAS RECIRCULATION |
| cm3/1000 strokes Tolerance | : 34.0 | Rated speed rpm : 1250 |
| cm3/1000 strokes | : 2.0 | + Aneroid pressure |
| Check tolerance | 7.0 | + hPa : 1200 |
| cm3/1000S. Shutoff solenoid | : 3.0 | + Del. quantity + cm3/1000 strokes : 31.0 |
| olt | : 12 | † Tolerance |
| NEW THEORY NAMES CONT. | CF. | + cm3/1000 strokes : 1.0 + Check tolerance |
| PELIVERY DIFFEREN | UC . | + cm3/1000s. : 2.5 |
| Rated speed rpm Aneroid pressure | : 1500 | + Shutoff solenoid + Volt : 12 |
| iPa | : 1200 | + |
| el quantity | | + START TRANSITION |
| cm3/1000 strokes Tolerance | | Rated speed rpm : 430 |
| :m3/1000 strokes | : 3.0 | Del. quantity |
| Check tolerance cm3/1000s. | : 3.0 | + cm3/1000 strokes : 34.0 + Tolerance |
| Shutoff solenoid Olt | : 12 | - cm3/1000 strokes : 15.0 - Shutoff solenoid |
| | | Volt : 12 |
| IMING-DEVICE TRA | | Ţ |
| lated speed rpm Ineroid pressure | : 1500 | + Rated speed rpm : 255 + Del. quantity |
| Pa | : 1200 | + cm3/1000 strokes : 69.0 |
| olerance mm Heck | : 0.3 | + Tolerance + cm3/1000 strokes : 15.0 |
| olerance mm Shutoff solenoid | : 0.4 | + Shutoff solenoid + Volt : 12 |
| olt | : 12 | + **** |
| ELIVERY DIFFERENCE | CE | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| ated speed rpm | : 1500 | + Dimension K mm : 3,3 |

Tolerance mm : +-0,1
Dimension KF mm : 8,4
Tolerance mm : +-0,2

MICROSWITCH SET

: ARF 12,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 19,1..23,1

Control lever

position YB mm : 73,0..87,0

| | 1 | | | | |
|--|---------------|-------------------------------------|-------|-----------|----------|
| BOSCH INJ. PUMP TEST SPECIFICAT | ions 🗍 | Rated speed rpm | : | 850 | |
| Note remarks | ‡ | Aneroid pressure hPa | : | 1200 | |
| | + | | | | |
| Refer to Service Info for test | and + | Setting mm Tolerance mm | : | 1.6 | |
| adjustment instructions. | † | | | 0.1 | |
| See microcard(s) W400/ | † | Shuraff solenoid | | 24 | |
| Edition : 22.07.96 | I | Vo³ ∜ | • | 24 | |
| Edition : 22.07.96 Test oil : ISO 4113 | Ţ | SUEFEY PUMP PRESS | SURE | | |
| Part no. : 0 460 424 0 | 07 | Datad aread nam | | 050 | |
| Pump designation : VE4/12F1300 | | Rated speed rpm Aneroid pressure | | 050 | |
| rump designation . Verrier 1900 | + | hPa | : | 1200 | |
| | } | | | | |
| Customer-spec. information | † | Setting hPa Tolerance hPa | : | 6.3 | |
| Customer : PERKINS Motor : T4.40 110TI | † | Tolerance hPa | : | 0.3 | |
| Motor : T4.40 110TI | † | Shutoff solenoid | | 27 | |
| | | Volt | : | 24 | |
| TEST BENCH REQUIREMENTS | + | FULL-LOAD DELIVER | RY WI | TH BOOST | PRESSURE |
| Calibrating-oil | I | Rated speed rpm | • | 1000 | |
| return | <u> </u> | Aneroid pressure | | 1000 | |
| temperature °C : 45 Tolerance °C : 1 | + | hPa | : | 1200 | |
| Tolerance °C : 1 | + | Del. quantity | | | |
| | + | cm3/1000 strokes | : | 75.5 | |
| Overflow | + | Tolerance | | | |
| restriction mm : 0.55 | + | cm3/1000 strokes | : | 0.5 | |
| | + | Spread | | , , | |
| ***** | † | cm3/1000 strokes | | 4.0 | |
| Inlet press. bar : 0.35 Tolerance bar : 0.05 | † | Check tolerance cm3/1000s. | _ | 4.0 | |
| roterance par : 0.05 | T | Shutoff solenoid | | 4.0 | |
| | I | Volt | | 24 | |
| Test nozzle holde | 1 | 7000 | • | | |
| assembly : 1 688 901 02 | 27 | FULL-LOAD DELIV. | WITH | OUT BOOST | PRESSURE |
| | + | | | | |
| Opening pressure | + | Rated speed rpm | : | 500 | |
| bar : 25 <u>0</u> | + | Del. quantity | | = | |
| Tolerance bar : 3 | + | cm3/1000 strokes | : | 61.5 | |
| | + | Tolerance | | 0.5 | |
| Took lines - 4 (00 750 07 | ,, † | cm3/1000 strokes | : | 0.5 | |
| Test lines : 1 680 750 07 | 7 7 | Shutoff solenoid Volt | | 24 | |
| Outside diameter : 6.00 | 1 | Check tolerance | • | 24 | |
| outside diameter . 0.00 | I | cm3/1000s. | • | 4.0 | |
| x inside diameter : 2.00 | I | 511137 TOOOS. | • | 7.0 | |
| x Length mm : 450 | 1 | IDLE SETTING | | | |
| | + | | | | |
| | + | Rated speed rpm | : | 300 | |
| REMARKS | + | Del. quantity | | 40.0 | |
| | † | cm3/1000 strokes | : | 10.0 | |
| | † | Tolerance | | 2.0 | |
| | † | cm3/1000 strokes | : | 2.0 | |
| INJECTION PUMP SETTING VALUES | <u> </u> | Shutoff solenoid Volt | | 24 | |
| TIMECITON LOUIL SELITING AMENES | I | Spread | • | ۲4 | |
| TIMING DEVICE TRAVEL | I | cm3/1000 strokes | • | 5.0 | |
| INTITIO PEATOR INVACE | t · | J 1000 JC1 ORCS | • | ٠.٠ | |

| Check tolerance cm3/1000s. | : 5.0 | † | Tolerance mm Check | : | 0.3 |
|----------------------------------|------------------|--------------|---------------------------|-------|------------------|
| CMS/ 1000s. | : 5.0 | + | tolerance mm | : | 0.7 |
| FULL-LOAD SPEED F | REGULATION | | Shutoff solenoid Volt | : | 24 |
| Deduct amount and | . 1//0 | † | CURRLY DUMP PRECO | une. | 0114D40TED70T70 |
| Rated speed rpm Pressure hPa | : 1440 : 1200 | † | SUPPLY PUMP PRESS | URE | CHARACTERISTIC |
| Del. quantity | . 1200 | Ι | Rated speed rpm | : | 1300 |
| cm3/1000 strokes | : 50.0 | | Aneroid pressure | • | 1300 |
| Tolerance | . 50.0 | | hPa | | 1200 |
| cm3/1000 strokes | : 2.0 | | Supply pomp | • | 1200 |
| Shutoff solenoid | | | pressure bar | : | 8.2 |
| Volt | : 24 | | Tolerance hPa | : | 0.3 |
| | | | Shutoff solenoid | | |
| STARTING FUEL DEL | IVERY | | Volt | : | 24 |
| | | - | | | |
| Rated speed rpm | : 100 | + | Rated speed rpm | : | 500 |
| Del. quantity | | 4. | Aneroid pressure | | |
| cm3/1000 strokes | : 110.0 | + | hPa | : | 1200 |
| Tolerance | | + | Supply pomp | | |
| cm3/1000 strokes | : 30.0 | + | pressure bar | : | 4.8 |
| Shutoff solenoid | | | Tolerance hPa | : | 0.3 |
| Volt | : 24 | + | Shutoff solenoid | | |
| | | + | Volt | : | 24 |
| | | + | | | |
| | | + | OVERFLOW QUANTITY | | |
| | | + | | | 477.00 |
| | | | Rated speed rpm | : | 1300 |
| INJECTION-PUMP TE | ST SPECIFICA | | Aneroid pressure | | 4000 |
| TIMENO DEVICE CUA | DACTEDICTIC | • | hPa | : | 1200 |
| TIMING DEVICE CHA | RACIERISTIC | | Overflow quantity ccm/10s | | 97.2 |
| Datad award mm | : 950 | • | Tolerance | : | 91.2 |
| Rated speed rpm Aneroid pressure | : 950 | | ccm/10s | : | 27.7 |
| hPa | : 1200 | I | CCIII/ TOS | • | 21.1 |
| IIFa | . 1200 | I | Check tolerance | | |
| SV travel mm | : 2.7 | | ccm/10s | • | 27.7 |
| Tolerance mm | : 0.3 | | Shutoff solenoid | • | C1.1 |
| Check | . 0.3 | 1 | Volt | • | 24 |
| tolerance mm | : 0.7 | I | VOCC | • | 24 |
| Shutoff solenoid | | 1 | Rated speed rpm | : | 700 |
| Volt | : 24 | | Aneroid pressure | • | 100 |
| VOCC | | | hPa | : | 1200 |
| Rated speed rpm | : 750 | | Overflow quantity | • | . 230 |
| Aneroid pressure | . , , , , | | ccm/10s | : | 63.8 |
| hPa | : 1200 | | Tolerance | | |
| | | + | ccm/10s | : | 22.2 |
| SV travel mm | : 0.6 | } | | | |
| Tolerance mm | : 0.3 | + | Check tolerance | | |
| Check | | | ccm/10s | : | 22.2 |
| tolerance mm | : 0.6 | + : | Shutoff solenoid | | |
| Shutoff solenoid | | + ' | Volt | : | 24 |
| Volt | : 24 | + | | | |
| | .=== | + 1 | DELIVERY AND BREAK | KAWAY | ' CHARACTERISTIC |
| Rated speed rpm | : 1300 | + | . | | 4//0 |
| Aneroid pressure | 4 | | Rated speed rpm | : | 1440 |
| hPa | : 1200 | | Aneroid pressure | | 1000 |
| C14 A 1 - | . | † ' | hPa | : | 1200 |
| SV travel mm | : 3.3 | + | | | |
| | | | | | |

| cm3/1000 strokes : 50.0 cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 2.0 cm3/1000s. : 3.5 Check tolerance cm3/1000s. : 6.0 Shutoff solenoid volt : 24 Rated speed rpm : 1500 Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Aneroid pressure hPa : 1200 bel. quantity cm3/1000 strokes : 30.0 cm3/1000 strokes : 75.5 Check tolerance cm3/1000s. : 10.0 cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 1580 Shutoff solenoid volt : 24 Rated speed rpm : 1580 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Aneroid pressure hPa : 1200 Check tolerance cm3/1000 strokes : 1.5 Del. quantity cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Check tolerance cm3/1000s. : 1.5 Check tolerance cm3/1000s. : 1.5 Check tolerance cm | |
|--|--|
| cm3/1000 strokes : 2.0 cm3/1000S. : 3.5 Check tolerance : 6.0 Shutoff solenoid Volt : 24 Shutoff solenoid Volt : 24 Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Aneroid pressure hPa : 1200 bel. quantity cm3/1000 strokes : 75.5 Del. quantity cm3/1000 strokes : 0.5 check tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000S. : 3.0 Shutoff solenoid Volt : 24 Rated speed rpm : 1580 MECHANICAL SHUTOFF Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 1.5 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Del. quantity cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check | |
| cm3/1000s. : 6.0 Shutoff solenoid : 24 Rated speed rpm : 1500 Aneroid pressure hPa : 1200 Aneroid pressure hPa : 1200 bel. quantity cm3/1000 strokes : 75.5 Check tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 24 Rated speed rpm : 1580 MECHANICAL SHUTOFF Aneroid pressure hPa : 1200 bel. quantity Rated speed rpm : 1300 cm3/1000 strokes : 1.5 Aneroid pressure hPa : 1200 Del. quantity Rated speed rpm : 1200 cm3/1000 strokes : 1.5 Del. quantity check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/100 | |
| Rated speed rpm : 1500 | |
| Rated speed rpm : 1500 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 75.5 Tolerance cm3/1000s. : 10.0 Check tolerance cm3/1000s. : 24 Rated speed rpm : 1580 Aneroid pressure hPa : 1200 Del. quantity cm3/1000s. : 3.0 Shutoff solenoid Volt : 24 Rated speed rpm : 1580 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Rated speed rpm : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 Aneroid pressure hPa : 700 | |
| hPa : 1200 cm3/1000 strokes : 75.5 Del. quantity cm3/1000 strokes : 0.5 Check tolerance cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Shutoff solenoid Volt : 24 Rated speed rpm : 1580 Aneroid pressure hPa hPa : 1200 Del. quantity Rated speed rpm : 1300 cm3/1000 strokes : 1.5 Aneroid pressure hPa : 1200 cm3/1000 strokes : 1.5 Del. quantity check tolerance cm3/1000 strokes : 1.5 cm3/1000s. : 1.5 Shutoff solenoid cm3/1000 strokes : 1.5 Volt : 24 Check tolerance cm3/1000s. cm3/1000s. : 1.5 Shutoff solenoid Volt Aneroid pressure Aneroid pressure hPa : 700 Aneroid pressure Shutoff solenoid Volt : 24 | |
| cm3/1000 strokes : 30.0 cm3/1000 strokes : 0.5 Check tolerance cm3/1000s. : 10.0 cm3/1000s. : 3.0 Shutoff solenoid Volt : 24 Volt : 24 Rated speed rpm cm3/1000 strokes result in the solenoid strokes result in the solenoid r | |
| cm3/1000s. : 10.0 cm3/1000s. : 3.0 Shutoff solenoid Shutoff solenoid 24 Rated speed rpm : 1580 MECHANICAL SHUTOFF Aneroid pressure MECHANICAL SHUTOFF hPa : 1200 Rated speed rpm : 1300 Del. quantity Aneroid pressure Tolerance hPa : 1200 cm3/1000 strokes : 1.5 Del. quantity Check tolerance cm3/1000 strokes : 1.5 Shutoff solenoid cm3/1000 strokes : 1.5 Volt : 24 Check tolerance cm3/1000s. : 1.5 Check tolerance cm3/1000s. : 1.5 Shutoff solenoid Volt : 24 Volt : 24 Rated speed rpm : 700 Shutoff solenoid Aneroid pressure Volt : 24 | |
| Volt : 24 Rated speed rpm : 1580 Aneroid pressure MECHANICAL SHUTOFF hPa : 1200 Del. quantity Rated speed rpm : 1300 cm3/1000 strokes : 1.5 Aneroid pressure hPa : 1200 Del. quantity check tolerance cm3/1000 strokes : 1.5 cm3/1000s : 1.5 Tolerance shutoff solenoid cm3/1000s : 1.5 Rated speed rpm : 700 Shutoff solenoid Aneroid pressure Volt : 24 | |
| Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 1300 Aneroid pressure hPa : 1200 cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Rated speed rpm : 700 Aneroid pressure hPa : 550 | |
| hPa : 1200 Del. quantity Rated speed rpm : 1300 cm3/1000 strokes : 1.5 Aneroid pressure Tolerance hPa : 1200 cm3/1000 strokes : 1.5 Del. quantity Check tolerance cm3/1000 strokes : 1.5 Shutoff solenoid cm3/1000 strokes : 1.5 Volt : 24 Rated speed rpm : 700 Shutoff solenoid Aneroid pressure Volt : 24 hPa : 550 Volt : 24 | |
| cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 cm3/1000 strokes : 1.5 cm3/1000 strokes : 1.5 cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 700 Aneroid pressure hPa : 550 | |
| cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 0.5 cm3/1000s. : 1.5 Shutoff solenoid Volt : 24 Rated speed rpm : 700 Aneroid pressure hPa : 550 Del. quantity cm3/1000 strokes : 1.5 Check tolerance cm3/1000 strokes : 1.5 Shutoff solenoid Volt : 24 Volt : 24 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Shutoff solenoid volt : 24 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Tolerance | |
| cm3/1000s. : 1.5 Tolerance Shutoff solenoid - cm3/1000 strokes : 1.5 Volt : 24 Check tolerance - cm3/1000s. : 1.5 Rated speed rpm : 700 - Shutoff solenoid Aneroid pressure - Volt : 24 hPa : 550 | |
| Volt : 24 Check tolerance cm3/1000s. : 1.5 Rated speed rpm : 700 + Shutoff solenoid Aneroid pressure + Volt : 24 hPa : 550 | |
| Rated speed rpm : 700 + Shutoff solenoid Aneroid pressure + Volt : 24 hPa : 550 + | |
| hPa : 550 + | |
| Del. quantity + | |
| cm3/1000 strokes : 71.5 + ELECTR. SHUTOFF | |
| Tolerance + CONTROL LEVER, IDLE STOP cm3/1000 strokes : 0.5 + | |
| Check tolerance + Rated speed rpm : 300 cm3/1000s. : 3.0 + Del. quantity | |
| Shutoff solenoid + cm3/1000 strokes : 1.5 Volt : 24 + Tolerance | |
| Rated speed rpm : 1300 + cm3/1000 strokes : 1.5 + Check tolerance | |
| Aneroid pressure + cm3/1000s. : 1.5 hPa : 1200 + | |
| Del. quantity + FULL-LOAD STOP CONTROL LEVER cm3/1000 strokes : 78.0 + | |
| Tolerance + Rated speed rpm : 300 cm3/1000 strokes : 1.5 + Del. quantity | |
| Check tolerance + cm3/1000 strokes : 1.5 cm3/1000s. : 3.5 + Tolerance | |
| Shutoff solenoid + cm3/1000 strokes : 1.5 Volt : 24 + Check tolerance | |
| | |
| cm3/1000s. : 1.5 Rated speed rpm : 700 | |
| + cm3/1000s. : 1.5 | |

Del. quantity cm3/1000 strokes : 1.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. 1.5 Shutoff solenoid Volt 24

START TRANSITION

Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : 20.0

Shutoff solenoid

Volt 24

Rated speed rpm : 150 Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : 30.0

Shutoff solenoid

Volt 24

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,7 : +-0,1 Tolerance mm Dimension KF mm : 6,4 : +-0,2 Tolerance mm MS1 dimension mm : 1,15

: +0,15/-0,1 Tolerance mm

: 8,5 KSB travel mm

CONTROL LEVER POSITION

SET

Control lever

position YA mm : 31,5..33,5

Control lever

: 47,7..56,3 position YB mm

End of test-specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 17,04,96

Test ail

: ISO 4113

Part no.

: 0 460 484 124

Pump designation : VE4/8F2300R598-8

Customer-spec. information

Customer : RENAULT

Motor

: F8Q - 620 DDS

Power KW

45.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C Tolerance °C

Overflow restriction mm :

0.55

Inlet press. bar :

Tolerance bar :

0.35

0.05

Test nozzle holde

assembly

: 1 688 901 022

Opening pressure

bar

130

Tolerance bar

3

Test lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter :

2.00

x length mm :

450

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Setting mm :

Tolerance mm

0.2

Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa 5.5 : Tolerance hPa : 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes :

31.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes :

2.5

Shutoff solenoid Volt

12

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm :

Del. quantity

cm3/1000 strokes : 3.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm : 2450

Del. quantity cm3/1000 strokes :

Tolerance

cm3/1000 strokes :

Shutoff solenoid

Volt 12

STARTING FUEL DELIVERY

Rated speed rpm :

100

24.5

3.0

Del. quantity

55.0

Tolerance

cm3/1000 strokes :

cm3/1000 strokes :

15.0

| Shutoff solenoid | | | + | | | |
|-------------------------------|------|----------------------|----------|-----------------------------|------|------------------|
| Volt | : | 12 | + | SUPPLY PUMP PRESS | SURE | CHARACTERISTIC |
| | | | Ŧ | Rated speed rpm | : | 2000 |
| | | | † | Supply pomp | | |
| LOAD-DEPENDENT ST | TART | OF DELIVERY | + | pressure bar | : | 7.7 |
| SETTING | | | + | Tolerance hPa | : | 0.3 |
| | | | + | Shutoff solenoid | | |
| DELIVERY DIFFEREN | ICE | | t | Volt | : | 12 |
| Rated speed rpm | : | 1250 | I | Rated speed rpm | : | 600 |
| Del. quantity | • | 1230 | I | | • | 000 |
| cm3/1000 strokes | | -7.0 | T | Supply pomp pressure bar | | 3.5 |
| Tolerance | • | 7.0 | Ţ | Tolerance hPa | : | 0.3 |
| cm3/1000 strokes | | 1.0 | T | Shutoff solenoid | • | 0.5 |
| | • | 1.0 | Ţ | | | 40 |
| Shutoff solenoid | | 12 | † | Volt | : | 12 |
| Volt | : | 12 | † | OVEDEL OU OUANITATE | , | |
| DD5001105 A 7 5 5 5 5 5 5 5 | = | | † | OVERFLOW QUANTITY | | |
| PRESSURE DIFFEREN | ICE | | † | | | 2252 |
| | | 4055 | t | | : | 2250 |
| Rated speed rpm | : | 1250 | + | Overflow quantity | • | |
| Del. quantity | | | + | ccm/10s | : | 97.2 |
| cm3/1000 strokes | : | -0.2 | + | Tolerance | | |
| Tolerance | | | + | ccm/10s | : | 41.6 |
| cm3/1000 strokes | : | 0.1 | + | | | |
| Shutoff solenoid | | | + | Check tolerance | | |
| Volt | : | 12 | + | ccm/10s | : | 41.6 |
| | | | + | Shutoff solenoid | | |
| TIMING-DEVICE TRA | VEL | DIFFERENCE | + | Volt | : | 12 |
| | | | + | | | |
| Rated speed rpm | : | 1250 | + | Rated speed rpm | : | 600 |
| Del. quantity | | | + | Overflow quantity | , | |
| cm3/1000 strokes | : | -0.7 | 1 | ccm/10s | : | 63.8 |
| Tolerance | | | 1 | Tolerance | | |
| cm3/1000 strokes | : | 0.1 | 1 | ccm/10s | : | 22.2 |
| Shutoff solenoid | • | | 1 | | - | 2212 |
| Volt | • | 12 | 1 | Check tolerance | | |
| 1311 | • | | 1 | ccm/10s | • | 22.2 |
| | | | 1 | Shutoff solenoid | • | |
| INJECTION-PUMP TE | ST S | SPECIFICATIONS | 1 | Volt | • | 12 |
| 1140 2011 2011 10111 12 | 0, 0 | 5, E01, 10, (10, (0) | 1 | 1000 | • | |
| TIMING DEVICE CHA | RACT | TERISTIC | + | DELIVERY AND BREA | KAWA | Y CHARACTERISTIC |
| | | | + | | | |
| Rated speed rpm | : | 2000 | + | Rated speed rpm | : | 2450 |
| | | | + | Del. quantity | | |
| SV travel mm | : | 6.3 | + | cm3/1000 strokes | : | 24.5 |
| Tolerance mm | : | 0.4 | + | Tolerance | | |
| Check | | | + | cm3/1000 strokes | : | 3.0 |
| tolerance mm | : | 0.6 | + | Check tolerance | | |
| Shutoff solenoid | | | + | cm3/1000s. | : | 4.0 |
| Volt | : | 12 | + | Shutoff solenoid | | |
| | | | + | Volt | : | 12 |
| Rated speed rpm | : | 600 | + | | | |
| e e constante e e en la decon | | | + | Rated speed rpm | : | 2650 |
| SV travel mm | : | 1.2 | 1 | Del. quantity | | |
| Tolerance mm | : | 0.4 | 1 | cm3/1000 strokes | : | 9.5 |
| Check | , | | + | Check tolerance | - | - |
| tolerance mm | : | 0.6 | 1 | cm3/1000s. | : | 5.0 |
| Shutoff solenoid | - | | 1 | Shutoff solenoid | • | : - |
| Volt | : | 12 | 1 | Volt | : | 12 |
| | ٠ | | 1 | | - | . = |

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| | | | 1 |
|-------------------------------------|----|--------------|--|
| Rated speed rpm | : | 2950 | ‡ |
| Del. quantity | | 2.5 | FLECTO CHUTOEF |
| cm3/1000 strokes Tolerance | i | 2.5 | → ELECTR. SHUTOFF → CONTROL LEVER, IDLE STOP |
| cm3/1000 strokes | : | 2.5 | + CONTINUE ELVEN, IDEE STOP |
| Check tolerance | - | | Rated speed rpm : 410 |
| cm3/1000s. | : | 2.5 | + Del. quantity |
| Shutoff solenoid | _ | 43 | + cm3/1000 strokes : 1.5 |
| Volt | : | 12 | + Tolerance + cm3/1000 strokes : 1.5 |
| Rated speed rpm | : | 2250 | Check tolerance |
| Del. quantity | • | 2233 | + cm3/1000s. : 1.5 |
| cm3/1000 strokes | : | 32.1 | → Spread |
| Tolerance | | | cm3/1000 strokes : 5.0 |
| cm3/1000 strokes | : | 1.0 | † |
| Check tolerance | _ | 2 7 | + FULL-LOAD STOP CONTROL LEVER |
| cm3/1000S. Shutoff solenoid | • | 2.3 | Rated speed rpm : 410 |
| Volt | : | 12 | + Del. quantity |
| | • | •• | + cm3/1000 strokes : 1.5 |
| Rated speed rpm | : | 1625 | + Tolerance |
| Del. quantity | | _, - | + cm3/1000 strokes : 1.5 |
| cm3/1000 strokes | : | 31.0 | + Spread |
| Tolerance | | 1 5 | + cm3/1000 strokes : 5.0 |
| cm3/1000 strokes Check tolerance | : | 1.5 | + Check tolerance + cm3/1000s. : 1.5 |
| cm3/1000S. | • | 2.3 | + Spread |
| Shutoff solenoid | • | 2.5 | + cm3/1000 strokes : 5.0 |
| Volt | : | 12 | + |
| | | | + |
| Rated speed rpm | : | 2000 | + |
| Del. quantity | _ | 70 F | † |
| cm3/1000 strokes Tolerance | : | 32.5 | İ |
| cm3/1000 strokes | : | 1.0 | CHECKING LOAD-DEPENDENT |
| Check tolerance | • | 1.0 | START OF DELIVERY |
| cm3/1000s. | • | 2.3 | + |
| Shutoff solenoid | | | <pre>DELIVERY DIFFERENCE</pre> |
| Volt | \$ | 12 | † |
| Bakadan Star | | 402 | + Rated speed rpm : 1250 |
| Rated speed rpm Del. quantity | : | 600 | + Del. quantity + cm3/1000 strokes : -9.5 |
| cm3/1000 strokes | : | 31.9 | + CM3/1000 Strokes : -9.3 + Tolerance |
| Tolerance | • | ⊒1. 7 | cm3/1000 strokes : 3.0 |
| cm3/1000 strokes | •: | 1.5 | + Check tolerance |
| Check tolerance | | | + cm3/1000s. : 3.0 |
| cm3/1000s. | ? | 2.3 | + Shutoff solenoid |
| Shutoff solemoid | | 40 | + Volt : 12 |
| Volt | : | 12 | TIMING ACUTOR TRAVEL ATERRANCE |
| Dated cheed nom | | 1250 | † TIMING-DEVICE TRAVEL DIFFERENCE |
| Rated speed rpm Del. quantity | : | 1670 | + Rated speed rpm : 1250 |
| cm3/1000 strokes | : | 31.5 | Del. quantity |
| Tolerance | • | 2,,, | - cm3/1000 strokes : -0.7 |
| cm3/1000 strokes | : | 0.5 | + Tolerance |
| Check tolerance | | <u> </u> | - cm3/1000 strokes : 0.1 |
| cm3/1000s. | : | 2.3 | Check tolerance |
| Shutoff solenoid | _ | 10 | + cm3/1000s. : 0.1 |
| Volt | : | 12 | + |

Shutoff solenoid

12 Volt

DELIVERY DIFFERENCE

Rated speed rpm 1250

Del. quantity

cm3/1000 strokes : 5.0

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

Volt 12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm 1250

Tolerance mm 0.2

Check

0.3 tolerance mm

Shutoff solenoid

12 Volt

START TRANSITION

Rated speed rpm 310

Del. quantity

cm3/1000 strokes : 35.0

Tolerance

10.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

Rated speed rpm 210

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes 15.0

Shutoff solenoid

12 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3

Tolerance mm : +-0,1

: 5,4 Dimension KF mm

Tolerance mm : +-0,2

Dimension MS mm : 1,3

Tolerance mm : +-0,2

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.07.96 Edition Test oil : ISO 4113

: 0 460 484 099 Part no. Pump designation: VE4/8F2500R611-1

Customer-spec. information Customer : PSA : TUD 5-L3 Motor

Power KW 42.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar Tolerance bar 3

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,8 Tolerance mm : +-0,2

Outlet |

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm 5.0 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

1500 Rated speed rpm :

Setting hPa 6.3 : Tolerance hPa 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1500

Del. quantity

cm3/1000 strokes : 24.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 2.0

Tolerance

cm3/1000 strokes : 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm :

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

G09

| SET GRADUATED STA | | | + | Check tolerance | | 41.6 |
|--------------------------------------|-------|---------------|---------------|--|------|------------------|
| CONTROL LEVER, ID | LE 31 | UP | T | Shutoff solenoid | : | 41.0 |
| Rated speed rpm Del. quantity | : | 200 | Ī | Volt | : | 12 |
| cm3/1000 strokes Tolerance | : | 40.0 | \ | Rated speed rpm Overflow quantity | | 600 |
| cm3/1000 strokes Shutoff solenoid | : | 1.0 | ‡ | ccm/10s Tolerance | : | 63.8 |
| Volt | : | 12 | <u> </u> | ccm/10s | : | 22.2 |
| | | | ‡ | Check tolerance ccm/10s Shutoff solenoid | : | 22.2 |
| INJECTION-PUMP TE | ST SP | PECIFICATIONS | <u> </u> | Volt | : | 12 |
| TIMING DEVICE CHA | RACTE | RISTIC | + | DELIVERY AND BREA | KAWA | Y CHARACTERISTIC |
| Rated speed rpm Tolerance mm | | 2200 0.4 | 1 | Rated speed rpm Del. quantity | : | 2650 |
| Check tolerance mm | : | 0.7 | ‡ | cm3/1000 strokes Tolerance | : | 12.0 |
| Shutoff solenoid Volt | : | 12 | 1 | cm3/1000 strokes Check tolerance | : | 2.0 |
| Rated speed rpm | : | 800 | 1 | cm3/1000s. Shutoff solenoid | : | 4.0 |
| SV travel mm | • | 1.6 | + | Volt | ; | 12 |
| Tolerance mm | : | 0.4 | Ŧ | Rated speed rpm Del. quantity | ; | 2580 |
| tolerance mm Shutoff solenoid | : | 0.7 | Ŧ | cm3/1000 strokes Tolerance | : | 20.0 |
| Volt | : | 12 | Ŧ | cm3/1000 strokes Check tolerance | : | 3.0 |
| SUPPLY PUMP PRESS | URE C | HARACTERISTIC | $\frac{1}{1}$ | cm3/1000s. Shutoff solenoid | : | 5.0 |
| Rated speed rpm Supply pomp | : | 2200 | 1 | Volt | : | 12 |
| pressure bar Tolerance hPa | : | 8.1 0.3 | 1 | Rated speed rpm Del. quantity | : | 2800 |
| Shutoff solenoid Volt | • | 12 | $\frac{1}{1}$ | cm3/1000 strokes Tolerance | : | 1.5 |
| Rated speed rpm | : | 800 | 1 | cm3/1000 strokes Check tolerance | : | 1.5 |
| Supply pomp pressure bar | • | 4.6 | 1 | cm3/1000s. Shutoff solenoid | : | 1.5 |
| Tolerance hPa Shutoff solenoid | : | 0.3 | 1 | Volt | : | 12 |
| Volt | : | 12 | Ŧ | Rated speed rpm Del. quantity | : | 2450 |
| OVERFLOW QUANTITY | | | Ŧ | cm3/1000 strokes Tolerance | : | 25.5 |
| Rated speed rpm Overflow quantity | : 7 | 2450 | $\frac{1}{1}$ | cm3/1000 strokes Check tolerance | : | 1.0 |
| ccm/10s Tolerance | : | 97.2 | $\frac{1}{1}$ | cm3/1000S. Shutoff solenoid | : | 2.2 |
| ccm/10s | : | 41.6 | Ŧ | Volt | : | 12 |
| | | | Ţ | Rated speed rpm | : | 600 |

| Del. quantity cm3/1000 strokes : 25.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : Check tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 3.5 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 3.5 Tolerance | 000 |
|--|--------------------|
| cm3/1000 strokes : 25.5 Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : Check tolerance cm3/1000s. : Shutoff solenoid Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 0.5 | 15.3 1.0 4.0 |
| Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : cm3/1000 strokes : cm3/1000 strokes : cm3/1000 strokes : shutoff solenoid Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 0.5 | 15.3 1.0 4.0 |
| <pre>cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. : 3.0 Shutoff solenoid Volt : 12 Rated speed rpm : 10 cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000 strokes : cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : 0.5</pre> | 15.3 1.0 4.0 |
| Check tolerance cm3/1000s. : 3.0 | 15.3 1.0 4.0 |
| cm3/1000s. : 3.0 — Del. quantity Shutoff solenoid — cm3/1000 strokes : Volt : 12 — Tolerance Rated speed rpm : 1500 — Check tolerance Del. quantity — cm3/1000s. : cm3/1000 strokes : 24.0 — Shutoff solenoid Tolerance — Volt : cm3/1000 strokes : 0.5 — Check tolerance | 15.3 1.0 4.0 |
| Shutoff solenoid Volt : 12 Rated speed rpm : 1500 Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : Check tolerance cm3/1000strokes : 24.0 Shutoff solenoid Tolerance cm3/1000 strokes : 0.5 | 1.0 4.0 |
| Volt : 12 | 1.0 4.0 |
| Rated speed rpm : 1500 | 4.0 |
| Rated speed rpm : 1500 | 4.0 |
| Rated speed rpm : 1500 | 4.0 |
| Del. quantity | |
| cm3/1000 strokes : 24.0 + Shutoff solenoid + Volt : cm3/1000 strokes : 0.5 + Shutoff solenoid + Volt : cm3/1000 strokes : 0.5 | |
| Tolerance + Volt : cm3/1000 strokes : 0.5 | 12 |
| cm3/1000 strokes : 0.5 | 17 |
| | , _ |
| Check tolerance — — — — — — — — START TRANSITION | |
| | |
| cm3/1000s. : 2.2 | |
| | 340 |
| Volt : 12 + Del. quantity | |
| cm3/1000 strokes : | 22.5 |
| | <i>LL.J</i> |
| Tolerance | 40.0 |
| MECHANICAL SHUTOFF + cm3/1000 strokes : | 10.0 |
| + Shutoff solenoid | |
| Rated speed rpm : 2450 + Volt : | 12 |
| Pel. quantity + | |
| m3/1000 strokes : 1.5 | |
| | 250 |
| cm3/1000 strokes : 1.5 + Del. quantity | .50 |
| | C2 0 |
| | 52.0 |
| m3/1000s. : 1.5 + Tolerance | |
| | 17.0 |
| olt : 12 + Shutoff solenoid | |
| + Volt : | 12 |
| | · · |
| ELECTR. SHUTOFF | |
| CONTROL LEVER, IDLE STOP + ASSEMBLY AND ADJUSTMENT | DIMENSIONS |
| 1 | |
| T T | |
| Pated speed rnm · 350 I Dimension K mm · 37 | |
| | 1 |
| el. quantity + Tolerance mm : +-0, | 1 |
| el. quantity + Tolerance mm : +-0, m3/1000 strokes : 1.5 + Dimension KF mm : 6,0 | |
| el. quantity + Tolerance mm : +-0, m3/1000 strokes : 1.5 + Dimension KF mm : 6,0 olerance + Tolerance mm : +-0, | 2 |
| el. quantity | 2 |
| el. quantity + Tolerance mm : +-0, m3/1000 strokes : 1.5 + Dimension KF mm : 6,0 olerance + Tolerance mm : +-0, m3/1000 strokes : 1.5 + Dimension MS mm : 1,0 | 2 |
| Colorance mm | 2 |
| el. quantity | 2 |
| Tolerance mm | 2 |
| Del. quantity | 2 |
| Del. quantity | 2 |
| Tolerance mm | 2 |
| Tolerance mm : +-0, pims/1000 strokes : 1.5 Folerance | 2 |
| Tolerance mm : +-0, pim3/1000 strokes : 1.5 pimension KF mm : 6,0 Tolerance mm : +-0, pimension KF mm : 6,0 Tolerance mm : +-0, pimension MS mm : 1,0 Tolerance mm : +-0,0 Tolera | 2 |
| Tolerance mm : +-0, pimension KF mm : 6,0 pimension KF mm : 6,0 pimension KF mm : 6,0 pimension KF mm : 4-0, pimension MS mm : 1,0 p | 2 |
| Tolerance mm : +-0, pim3/1000 strokes : 1.5 Folerance | 2 |
| Tolerance mm : +-0, pimasion KF mm : 6,0 Tolerance | 2 |
| Tolerance mm | 2 |
| Del. quantity cm3/1000 strokes: 1.5 Tolerance cm3/1000 strokes: 1.5 Tolerance cm3/1000 strokes: 1.5 Check tolerance cm3/1000s: 1.5 FULL-LOAD STOP CONTROL LEVER Rated speed rpm: 350 Del. quantity cm3/1000 strokes: 1.5 Tolerance Tolerance mm: :+-0, Dimension MS mm: 1,0 Tolerance mm: :+-0, Tolerance mm: :+-0, End of test-specification | 2 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.07.96 Edition : ISO 4113 Test oil

: 0 460 484 100 Part no. Pump designation: VE4/8F2500R611-2

Customer-spec. information

: PSA Customer

: TUD5 -L3 ADC Motor Power KW 42.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature *C 45 Tolerance °C

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 Tolerance bar

: 1 680 750 073 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 450 x length mm

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,8 Tolerance mm : +0.2Outlet

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm 5.0 Tolerance mm 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

1500 Rated speed rpm

Setting hPa 6.3 Tolerance hPa 0.3 Shutoff solenoid Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 1500 Del. quantity

cm3/1000 strokes : 24.0

Tolerance

cm3/1000 strokes : 0.5

Spread

2.0 cm3/1000 strokes :

Shutoff solenoid

12 Volt

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 2.0

Tolerance

cm3/1000 strokes 0.5

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

Rated speed rpm 265ú

Del. quantity

12.0

cm3/1000 strokes : Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

| | | + | | | |
|--------------------------------------|--------------------|--------------|--|------------|-------------------|
| SET GRADUATED STA | | + | Check tolerance | | |
| CONTROL LEVER, ID | DLE STOP | 1 | ccm/10s Shutoff solenoid | : | 41.6 |
| Rated speed rpm Del. quantity | : 200 | 1 | Volt | : | 12 |
| cm3/1000 strokes Tolerance | : 40.0 | 1 | Rated speed rpm Overflow quantity | <i>;</i> : | 600 |
| cm3/1000 strokes Shutoff solenoid | : 1.0 | 1 | ccm/10s Tolerance | : | 63.8 |
| Volt | : 12 | 1 | ccm/10s | : | 22.2 |
| | | + | Check tolerance ccm/10s | : | 22.2 |
| INJECTION-PUMP TE | ST SPECIFICATIONS | | Shutoff solenoid Volt | : | 12 |
| TIMING DEVICE CHA | RACTERISTIC | † † | DELIVERY AND BREA | KAW | AY CHARACTERISTIC |
| Rated speed rpm Tolerance mm | : 2200 : 0.4 | 1 | Rated speed rpm Del. quantity | : | 2650 |
| Check tolerance mm | : 0.7 | 1 | cm3/1000 strokes Tolerance | : | 12.0 |
| Shutoff solenoid Volt | : 12 | <u> </u> | cm3/1000 strokes Check tolerance | : | 2.0 |
| Rated speed rpm | | ‡ | cm3/1000s. Shutoff solenoid | : | 4.0 |
| SV travel mm | : 1.6 | 1 | Volt | : | 12 |
| Tolerance mm Check | : 0.4 | - | Rated speed rpm Del. quantity | : | 2580 |
| tolerance mm Shutoff solenoid | : 0.7 | Ŧ | cm3/1000 strokes | : | 20.0 |
| Volt | : 12 | Ŧ | Tolerance cm3/1000 strokes Check tolerance | : | 3.0 |
| SUPPLY PUMP PRESS | URE CHARACTERISTIC | Ŧ | cm3/1000s. Shutoff solenoid | : | 5.0 |
| Rated speed rpm Supply pomp | : 2200 | 1 | Volt | : | 12 |
| pressure bar Tolerance hPa | : 8.1 : 0.3 | + | Rated speed rpm Del. quantity | : | 2800 |
| Shutoff solenoid Volt | : 12 | ‡ | cm3/1000 strokes Tolerance | : | 1.5 |
| Rated speed rpm | : 600 | <u> </u> | cm3/1000 strokes Check tolerance | : | 1.5 |
| Supply pomp pressure bar | : 4.6 | ‡ | cm3/1000s. Shutoff solenoid | : | 1.5 |
| Tolerance hPa Shutoff solenoid | : 0.3 | <u> </u> | Volt | : | 12 |
| Volt | : 12 | 1 | Rated speed rpm Del. quantity | : | 2450 |
| OVERFLOW QUANTITY | | 1 | cm3/1000 strokes Tolerance | : | 26.0 |
| Rated speed rpm Overflow quantity | : 2450 | <u> </u> | cm3/1000 strokes Check tolerance | : | 1.0 |
| ccm/10s Tolerance | : 97.2 | 1 | cm3/1000s. Shutoff solenoid | : | 2.2 |
| ccm/10s | : 41.6 | + | Volt | : | 12 |
| | | + | Rated speed rpm | : | 600 |

| Del. quantity | | 1 | | |
|----------------------------------|-------------|--------------|--------------------------|------------------|
| cm3/1000 strokes Tolerance | : 25.5 | <u> </u> | EXHAUST-GAS RECIF | PCHI ATTON |
| cm3/1000 strokes | : 1.5 | I | EVUNOSI AND VECTA | COLATION |
| Check tolerance | , ,,,, | 1 | Rated speed rpm | : 1000 |
| cm3/1000s. | : 3.0 | + | Del. quantity | |
| Shutoff solenoid | | + | cm3/1000 strokes | : 15.3 |
| /olt | : 12 | + | Tolerance | |
| | | + | cm3/1000 strokes | : 1.0 |
| ated speed rpm | : 1500 | † | Check tolerance | |
| el. quantity | 2/ 0 | † | cm3/1000s. | : 4.0 |
| m3/1000 strokes | : 24.0 | † | Shutoff solenoid | |
| olerance m3/1000 strokes | : 0.5 | Ť | Volt | : 12 |
| heck tolerance | : 0.5 | 7 | START TRANSITION | |
| m3/1000s. | : 2.2 | I | START TRANSPITION | |
| hutoff solenoid | | I | Rated speed rpm | : 340 |
| olt | : 12 | I | Del. quantity | . 570 |
| ~.0 | | \downarrow | cm3/1000 strokes | : 22.5 |
| | | \ | Tolerance | |
| ECHANICAL SHUTOR | :F | 1 | cm3/1000 strokes | : 10.0 |
| | | + | Shutoff solenoid | |
| ated speed rpm | : 2450 | } | Volt | : 12 |
| l. quantity | | } | | |
| /1000 strokes | : 1.5 | } | | |
| erance | | + | Rated speed rpm | : 250 |
| 1000 strokes | : 1.5 | + | Del. quantity | |
| ck tolerance | | + | cm3/1000 strokes | : 52.0 |
| /1000s. | : 1.5 | + | Tolerance | |
| toff solenoid | | + | cm3/1000 strokes | : 17.0 |
| | : 12 | † | Shutoff solenoid Volt | : 12 |
| | | Ţ | VOCC | . 12 |
| ECTR. SHUTOFF NTROL LEVER, ID | LE STOP | ‡ | ASSEMBLY AND ADJU | STMENT DIMENSION |
| ated speed rpm | : 350 | I | Dimension K mm | : 3,7 |
| el. quantity | . 250 | 1 | Tolerance mm | : +-0,2 |
| 3/1000 strokes | : 1.5 | 1 | Dimension KF mm | : 6,0 |
| erance. | . • • | | Tolerance mm | : +-0,2 |
| /1000 strokes | : 1.5 | 1 | Dimension MS mm | : 1,0 |
| ck tolerance | | + | Tolerance mm | : +-0,2 |
| 1000s. | : 1.5 | Ì | | |
| -LOAD STOP CO | NTROL LEVER | + | | |
| ad speed nom | : 350 | 1 | | |
| ted speed rpm quantity | . 570 | I | | |
| 3/1000 strokes | : 1.5 | I | | |
| lerance | | I | End of test-speci | fication sheet |
| 3/1000 strokes | : 1.5 | \downarrow | Cha or cost specif | |
| eck tolerance | . ,,,, | 1 1 | | |
| /1000s. | : 1.5 | + | | |
| | • - | + | | |
| | | j | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.07.96 Edition : ISO 4113 Test oil

: 0 460 414 145 Part no. Pump designation : VE4/11F2000R686-2

Customer-spec. information Customer : FORD Motor : 2.5L DI Power KW 56.0

TEST BENCH REQUIREMENTS

Calibrating-oil return

temperature °C Tolerance °C

Overflow

restriction mm : 0.75

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 114

Opening pressure

207 bar Tolerance bar 3

Test Lines : 1 680 750 073

Outside diameter : 6.00

x inside diameter : 2.00 x length mm : 450

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm: 0,35 Tolerance mm : +-0,05 Outlet : B KDEP1151

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Tolerance mm : 3.2 0.1 Shutoff solenoid 12

Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Setting hPa 7.5 : Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

1000 Rated speed rpm : Rated speed rpm : 500 Del. quantity

cm3/1000 strokes :

35.7 Del. quantity 30.6

cm3/1000 strokes :

Tolerance cm3/1000 strokes : 0.5

Tolerance

cm3/1000 strokes : 0.2

Spread

cm3/1000 strokes : 3.0

Shutoff solenoid

Volt 12

Shutoff solenoid

Volt 12

Check tolerance

cm3/1000s. 4.0

IDLE SETTING

Rated speed rpm : 425

Del. quantity cm3/1000 strokes : 8.3

Tolerance

cm3/1000 strokes : 1.0

Shutoff solenoid

Volt 12

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 4.0

| | | + Shutoff solenoid + Volt : 12 |
|-----------------------------------|---------------------|--|
| FULL-LOAD SPEED F | REGULATION | + Rated speed rpm : 1000 |
| Rated speed rpm Del. quantity | : 2200 | Supply pomp pressure bar : 6.9 |
| cm3/1000 strokes Tolerance | : 32.1 | Tolerance hPa : 0.3 Shutoff solenoid |
| cm3/1000 strokes | : 1.0 | + Volt : 12 |
| Shutoff solenoid Volt | : 12 | OVERFLOW QUANTITY |
| STARTING FUEL DEL | LIVERY | Rated speed rpm : 500 |
| Rated speed rpm | : 100 | Overflow quantity : 119.4 |
| Del. quantity cm3/1000 strokes | : 52.5 | Tolerance : 22.2 |
| Tolerance cm3/1000 strokes | : 20.0 | + Check tolerance |
| Shutoff solenoid Volt | : 12 | + ccm/10s : 22.2 + Shutoff solenoid |
| | | + Volt : 12 |
| | | Rated speed rpm : 1950 Overflow quantity |
| TALLECTION DUMP TO | EST SPECIFICATIONS | ccm/10s : 150.0 Tolerance |
| | | ccm/10s : 34.7 |
| TIMING DEVICE CHA | | † † Check tolerance |
| Rated speed rpm Tolerance mm | : 2000 : 0.4 | + ccm/10s : 34.7 + Shutoff solenoid |
| Check tolerance mm | : 0.9 | + Volt : 12 |
| Shutoff solenoid Volt | : 12 | DELIVERY AND BREAKAWAY CHARACTERISTIC |
| | | Rated speed rpm : 2200 |
| Rated speed rpm | | + Del. quantity + cm3/1000 strokes : 32.1 |
| SV travel mm Tolerance mm | : 2.1 : 0.4 | + Tolerance + cm3/1000 strokes : 1.0 |
| Check tolerance mm | : 0.9 | + Check tolerance + cm3/1000s. : 5.0 |
| Shutoff solenoid Volt | : 12 | Shutoff solenoid Volt : 12 |
| | | + |
| | TURE CHARACTERISTIC | Rated speed rpm : 2150 Del. quantity |
| Rated speed rpm Supply pomp | : 2000 | + cm3/1000 strokes : 34.9 + Tolerance |
| pressure bar Tolerance hPa | : 9.2 : 0.3 | cm3/1000 strokes : 3.0 Check tolerance |
| Shutoff solenoid Volt | : 12 | cm3/1000s. : 6.0 Shutoff solenoid |
| Rated speed rpm | : 500 | + Volt : 12 |
| Supply pomp | : 5.8 | Rated speed rpm : 2425 |
| pressure bar Tolerance hPa | : 0.3 | the Del. quantity cm3/1000 strokes : 2.5 |
| | | † |

| Tolerance | | | + Rated speed rpm | : | 425 | |
|--|---|--|---|---|---|--|
| cm3/1000 strokes | : | 2.5 | + Del. quantity | | _ | |
| Check tolerance | | | + cm3/1000 strokes | : | 1.5 | |
| cm3/1000s. | : | 2.5 | + Tolerance | • | , • • | |
| Shutoff solenoid | • | | + cm3/1000 strokes | | 1.5 | |
| Volt | • | 12 | + Spread | • | 1.5 | |
| VOCE | • | 1 € | + cm3/1000 strokes | | 5.0 | |
| Amonorid managemen | | | | • | ال. ر | |
| Aneroid pressure | _ | | † Check tolerance | | 4 | |
| hPa | : | | + cm3/1000s. | : | 1.5 | |
| | | | + Spread | | | |
| LDA/ | | | + cm3/1000 strokes | : | 5.0 | |
| HBA stroke mm | : | 7.7 | + | | | |
| | | | → IDLE DELIVERY | | | |
| Rated speed rpm | : | 1950 | + | | | |
| Del. quantity | | | + Rated speed rpm | : | 500 | |
| cm3/1000 strokes | : | 39.6 | + Del. quantity | • | | |
| Tolerance | - | 0,10 | + cm3/1000 strokes | : | 3.0 | |
| cm3/1000 strokes | | 1.2 | | • | 5.0 | |
| | • | 1.6 | Tolerance | _ | 7.0 | |
| Check tolerance | | 2 5 | + cm3/1000 strokes | : | 3.0 | |
| cm3/1000s. | : | 2.5 | + Check tolerance | | | |
| Shutoff solenoid | | | + cm3/1000s. | : | 3.0 | |
| Volt | : | 12 | + Shutoff solenoid | | | |
| | | | → Volt | : | 12 | |
| Rated speed rpm | : | 1700 | + | | | |
| Del. quantity | | | 1 | | | |
| cm3/1000 strokes | : | 38.7 | 1 | | | |
| Tolerance | • | • | 1 | | | |
| cm3/1000 strokes | • | 1.2 | \mathbf{I} | | | |
| Check tolerance | • | 1.2 | | | | |
| cm3/1000s. | _ | 2 5 | EVILABLET CAS DECY | 2011 | TYON | |
| CMAZ HIGHS. | | 2.5 | + EXHAUST-GAS RECI | ₩1 I II A | ALLON | |
| | • | | i | ((COL) | | |
| Shutoff solenoid | • | 40 | † | | | |
| | : | 12 | Rated speed rpm | : | 1250 | |
| Shutoff solenoid Volt | | | + Del. quantity | : | 1250 | |
| Shutoff solenoid Volt Rated speed rpm | | 12 500 | | : | | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity | : | 500 | + Del. quantity | : | 1250 | |
| Shutoff solenoid Volt Rated speed rpm | : | | + Del. quantity + cm3/1000 strokes + Tolerance | : | 1250 21.3 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes | : | 500 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 1250 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : | 500 30.6 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 1250 21.3 0.5 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : | 500 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 1250 21.3 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : | 500 30.6 0.2 | - Del. quantity - cm3/1000 strokes - Tolerance - cm3/1000 strokes - Check tolerance - cm3/1000s Shutoff solenoid | : | 1250 21.3 0.5 2.5 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 500 30.6 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 1250 21.3 0.5 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 500 30.6 0.2 3.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 1250 21.3 0.5 2.5 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : | 500 30.6 0.2 | - Del. quantity - cm3/1000 strokes - Tolerance - cm3/1000 strokes - Check tolerance - cm3/1000s Shutoff solenoid | : | 1250 21.3 0.5 2.5 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 500 30.6 0.2 3.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION | : : : : | 1250 21.3 0.5 2.5 12 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 500 30.6 0.2 3.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm | : : : : | 1250 21.3 0.5 2.5 12 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 500 30.6 0.2 3.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity | : : : | 1250 21.3 0.5 2.5 12 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid | : | 500 30.6 0.2 3.0 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm | : : : | 1250 21.3 0.5 2.5 12 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt | : | 500 30.6 0.2 3.0 12 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt Rated speed rpm Del. quantity | : : : | 1250 21.3 0.5 2.5 12 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF | : | 500 30.6 0.2 3.0 12 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes | : : : : : : | 1250 21.3 0.5 2.5 12 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID | : : : | 500 30.6 0.2 3.0 12 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : : : : : : | 1250 21.3 0.5 2.5 12 480 30.4 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm | : : : | 500 30.6 0.2 3.0 12 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : : : : : : | 1250 21.3 0.5 2.5 12 480 30.4 6.0 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity | : : : : | 500 30.6 0.2 3.0 12 TOP 425 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : : : : : : | 1250 21.3 0.5 2.5 12 480 30.4 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes | : : : : | 500 30.6 0.2 3.0 12 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | : : : : : : | 1250 21.3 0.5 2.5 12 480 30.4 6.0 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt | : | 1250 21.3 0.5 2.5 12 480 30.4 6.0 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Rated speed rpm | : | 1250 21.3 0.5 2.5 12 480 30.4 6.0 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity | : | 1250 21.3 0.5 2.5 12 480 30.4 6.0 12 | |
| Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes | : | 1250 21.3 0.5 2.5 12 480 30.4 6.0 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance Tolerance Tolerance Tolerance Tolerance Tolerance Tolerance | : | 1250 21.3 0.5 2.5 12 480 30.4 6.0 12 300 50.6 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes | | 1250 21.3 0.5 2.5 12 480 30.4 6.0 12 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance Tolerance Tolerance Tolerance Tolerance Tolerance Tolerance | | 1250 21.3 0.5 2.5 12 480 30.4 6.0 12 300 50.6 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread cm3/1000 strokes | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes | | 1250 21.3 0.5 2.5 12 480 30.4 6.0 12 300 50.6 | |
| Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt ELECTR. SHUTOFF CONTROL LEVER, ID Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spread | : : : : : | 500 30.6 0.2 3.0 12 TOP 425 1.5 1.5 1.5 | Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Shutoff solenoid Volt START TRANSITION Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid Volt Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Shutoff solenoid | | 1250 21.3 0.5 2.5 12 480 30.4 6.0 12 300 50.6 15.0 | |

ASSEMBLY AND ADJUSTMENT DIMENSIONS

LDA/

HBA stroke mm : 7.7
Dimension K mm : 2,8
Tolerance mm : +-0,1
Dimension KF mm : 8,4
Tolerance mm : +-0,2
Dimension MS mm : 1,8
Tolerance mm : +-0,2

MICROSWITCH

SET

: ARF 20,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20,06,95 Test oil : ISO 4113

Part no. : 0 460 485 025 Pump designation : VE5/8F2100L633

Customer-spec. information

Customer : VW

Motor : 2,41 SD f. T4

Power KW 57.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm 0.55 :

Inlet press. bar : 0.35 Tolerance bar 0.05

Test nozzle holde

: 1 688 901 000 assembly

Opening pressure

bar 147 Tolerance bar

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 x Length mm 840 :

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1500

Setting mm : Tolerance mm : 0.2 Shutoff solenoid

Volt 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1500

Setting hPa 7.4 Tolerance hPa : 0.3 Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 1250

Del. quantity

cm3/1000 strokes : 36.0

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.0

Shutoff solenoid Volt

12

IDLE SETTING

Rated speed rpm 415 Del. quantity

cm3/1000 strokes : 8.0 Tolerance

cm3/1000 strokes :

1.0 Shutoff solenoid

Volt

12

Spread

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s.3.0

FULL-LOAD SPEED REGULATION

Rated speed rpm 2400

Del. quantity cm3/1000 strokes :

12.0 Tolerance

cm3/1000 strokes : 2.0

Shutoff solenoid

Volt 12

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. guantity

cm3/1000 strokes : 60.0

| Tolerance cm3/1000 strokes | : | 25.0 | ‡ | SUPPLY PUMP PRESS | URE | CHARACTERISTIC |
|---------------------------------------|--------|-------------|---------------|---|------|------------------|
| Shutoff solenoid Volt | : | 12 | ‡ | Rated speed rpm Supply pomp | : | 1790 |
| | | | | pressure bar Tolerance hPa | : | 8.1 0.3 |
| LOAD-DEPENDENT ST SETTING | ART OF | DELIVERY | + | Shutoff solenoid Volt | : | 12 |
| DELIVERY DIFFEREN | CE | | Ī | Rated speed rpm Supply pomp | : | 1100 |
| Rated speed rpm Del. quantity | : 1 | 500 | | pressure bar Tolerance hPa | : | 6.2 0.3 |
| cm3/1000 strokes Tolerance | : | -7.0 | ‡ | Shutoff solenoid Volt | : | 12 |
| cm3/1000 strokes Shutoff solenoid | • | 1.0 | ‡ | OVERFLOW QUANTITY | | |
| Volt | : | 12 | + | Detail amond was | | 2100 |
| PRESSURE DIFFEREN | CE | | Ŧ | Rated speed rpm Overflow quantity ccm/10s | | 97.2 |
| Rated speed rpm Del. quantity | : 1 | 500 | <u> </u> | Tolerance | : | 41.6 |
| cm3/1000 strokes Tolerance | : | -0.2 | + | Check tolerance | • | 41.0 |
| cm3/1000 strokes Shutoff solenoid | : | 0.1 | + | ccm/10s Shutoff solenoid | : | 55.5 |
| Volt | : | 12 | <u>†</u> | Volt | : | 12 |
| TIMING-DEVICE TRA | VEL DI | FFERENCE | 1 | Rated speed rpm Overflow quantity | : | 600 |
| Rated speed rpm Del. quantity | : 1 | 500 | 1 | ccm/10s Tolerance | : | 63.8 |
| cm3/1000 strokes Tolerance | : | -1.2 | + | ccm/10s | : | 22.2 |
| cm3/1000 strokes Shutoff solenoid | : | 0.1 | | Check tolerance ccm/10s | : | 34.7 |
| Volt | : | 12 | † | Shutoff solenoid Volt | : | 12 |
| INJECTION-PUMP TE | ST SPE | CIFICATIONS | ‡ | DELIVERY AND BREAK | KAWA | Y CHARACTERISTIC |
| TIMING DEVICE CHA | RACTER | ISTIC | 1 | Rated speed rpm Del. quantity | : | 2400 |
| Rated speed rpm Tolerance mm | : 1 | 790 0.4 | ‡ | cm3/1000 strokes Tolerance | : | 12.0 |
| Check tolerance mm | • | 0.7 | 1 | cm3/1000 strokes Check tolerance | : | 2.0 |
| Shutoff solenoid Volt | • | 12 | 1 | cm3/1000s. Shutoff solenoid | : | 4.0 |
| | . 1. | 100 | + | Volt | : | 12 |
| Rated speed rpm | : 7 | 1.6 | Ŧ | Rated speed rpm | : | 2300 |
| SV travel mm Tolerance mm Check | : | 0.4 | Ī | Del. quantity cm3/1000 strokes Tolerance | : | 22.0 |
| tolerance mm Shutoff solenoid | : | 0.7 | 1 | cm3/1000 strokes Check tolerance | : | 5.0 |
| Volt | : | 12 | + | cm3/1000s. | : | 6.0 |

| Shutoff solenoid Volt | : | 12 | ‡ | Rated speed rpm Del. quantity | | |
|--------------------------------------|-------|-------|--------------|--|------|------------|
| Rated speed rpm | : | 2600 | <u> </u> | cm3/1000 strokes Tolerance | : | 1.5 |
| Del. quantity cm3/1000 strokes | | 3.0 | 1 | cm3/1000 strokes Spread | : | 1.5 |
| Tolerance cm3/1000 strokes | | 3.0 | 1 | cm3/1000 strokes Check tolerance | : | 5.0 |
| Check tolerance cm3/1000s. | | 3.0 | + | cm3/1000s. Spread | : | 1.5 |
| Shutoff solenoid Volt | • | 12 | - | cm3/1000 strokes | : | 5.0 |
| | • | 2100 | Ŧ | | | |
| Rated speed rpm Del. quantity | | | Ţ | | | |
| cm3/1000 strokes Tolerance | : | 30.0 | ‡ | | | |
| cm3/1000 strokes Check tolerance | : | 1.0 | + | CHECKING LOAD-DEF | | ENT |
| cm3/1000s. Shutoff solenoid | : | 2.2 | + | DELIVERY DIFFEREN | | |
| Volt | : | 12 | + | | | 1500 |
| Rated speed rpm Del. quantity | : | 600 | Ŧ | Rated speed rpm Del. quantity cm3/1000 strokes | | |
| cm3/1000 strokes | : | 33.8 | ‡ | Tolerance | | |
| Tolerance cm3/1000 strokes | | 1.5 | ‡ | cm3/1000 strokes Check tolerance | | 3.0 |
| Check tolerance cm3/1000s. | : | 3.0 | ‡ | cm3/1000S. Shutoff solenoid | : | 4.0 |
| Shutoff solenoid Volt | : | 12 | + | Volt | : | 12 |
| Rated speed rpm | : | 1250 | ‡ | TIMING-DEVICE TRA | IVEL | DIFFERENCE |
| Del. quantity cm3/1000 strokes | | | 1 | Rated speed rpm Del. quantity | : | 1500 |
| Tolerance cm3/1000 strokes | | 0.5 | + | cm3/1000 strokes Tolerance | : | -1.2 |
| Check tolerance | • | | Ŧ | cm3/1000 strokes | : | 0.1 |
| cm3/1000s. Shutoff solenoid | : | 2.2 | ‡ | Check tolerance cm3/1000s. | : | 0.1 |
| Volt | : | 12 | ‡ | Shutoff solenoid Volt | : | 12 |
| | | | ‡ | DELIVERY DIFFEREN | ICE | |
| ELECTR. SHUTOFF CONTROL LEVER, ID | LE ST | OP | 1 | Rated speed rpm | : | 1500 |
| Rated speed rpm | | 415 | İ | Del. quantity cm3/1000 strokes | | 1.5 |
| Del. quantity cm3/1000 strokes | | 1.5 | + | Tolerance cm3/1000 strokes | | 1.5 |
| Tolerance | | | Ŧ | Check tolerance | • | |
| cm3/1000 strokes Check tolerance | : | 1.5 | ‡ | cm3/1000s. Shutoff solenoid | : | 1.5 |
| cm3/1000s. Spread | : | 1.5 | ‡ | Volt | : | 12 |
| cm3/1000 strokes | : | 5.0 | ‡ | PRESSURE DIFFEREN | CE | |
| FULL-LOAD STOP CON | NTROL | LEVER | ‡ | Rated speed rpm | : | 1500 |

Supply pomp

pressure bar : -1.0 Tolerance hPa : 0.2

Shutoff solenoid

Volt : 12

TIMING-DEVICE TRAVEL DIFFERENCE

Rated speed rpm : 1500 Tolerance mm : 0.2

Check

tolerance mm : 0.6

Shutoff solenoid

Volt : 12

Rated speed rpm : 180

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : 25.0

Shutoff solenoid

Volt : 12

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3
Tolerance mm : +0,1
Dimension KF mm : 5,8
Tolerance mm : +0,2
Dimension MS mm : 1,4
Tolerance mm : +0,2

CONTROL LEVER POSITION SET

Control lever

position YA mm : 32,8..34,8

Control lever

position YB mm : 60,5..71,5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.11.93 : ISO 4113 Test oil

: 0 460 414 039 Part no. Pump designation : VE4/11F1350R257

Customer-spec. information

Customer : IVECO-FIAT

: 8040.25.200+220 Motor

TEST BENCH REQUIREMENTS

Overflow

0.55 restriction mm :

Inlet press. bar : 0.35Tolerance bar

Test nozzle holde

: 1 688 901 020 assembly

Opening pressure

bar 172 Tolerance bar

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter : 2.00 840 x length mm

REMARKS

BEGINNING OF DELIVERY

Prestroke

(as of UT) mm : 0,4 Tolerance mm : +-0,02

Check

: +-0,04 tolerance mm

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1000 Aneroid pressure

hPa 1000

4.0 Setting mm Tolerance mm 0.2 Shutoff solenoid Volt 24

SUPPLY PUMP PRESSURE

1000 Rated speed rpm :

Aneroid pressure

hPa 1000

Setting hPa 6.0 Tolerance hPa 0.3 Shutoff solenoid 24 Volt

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 800 Aneroid pressure 1000 Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : 0.5 Spread cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 5.0

Shutoff solenoid Volt 24

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

500 Rated speed rpm : Del. quantity cm3/1000 strokes : 69.0 Tolerance cm3/1000 strokes : 0.5 Shutoff solenoid 24 Volt Check tolerance 5.0 cm3/1000S.

IDLE SETTING

Rated speed rpm 350 Del. quantity

cm3/1000 strokes : 24.0

| Tolerance | | 2.0 | † | 0/1001 // 0/140 00000 | | AU 4 - 4 0 T = 0 - 0 T | |
|---|--------------------|---|---|--|---|---|-----|
| cm3/1000 strokes | | 2.0 | † | SUPPLY PUMP PRESS | URE | CHARACTERISTI | . C |
| Shutoff solenoid | | 24 | † | | | 4750 | |
| Volt Spread | : | 24 | † | Rated speed rpm | | 1350 | |
| om3/1000 strokes | _ | 7 5 | † | Aneroid pressure | | 1000 | |
| cms/ ludy strokes | • | 3.5 | † | hPa | : | 1000 | |
| Check tolerance | _ | 4.0 | † | Supply pomp | | 7 7 | |
| cm3/1000S. | : | 4.0 | † | pressure bar | : | 7.3 | |
| | | | † | Tolerance hPa | : | 0.3 | |
| FILL LOAD COEFD ! | DECULA: | TZON | † | Shutoff solenoid | _ | 27 | |
| FULL-LOAD SPEED I | KEGULA | LTON | † | Volt | : | 24 | |
| Rated speed rpm | | 1500 | I | Rated speed rpm | | 800 | |
| Pressure hPa | • | 1000 | I | kateu speeu i piii | • | 000 | |
| Del. quantity | • | 1000 | T | Rated speed rpm | : | 500 | |
| cm3/1000 strokes | | 37 A | T | Aneroid pressure | • | 200 | |
| Tolerance | • | 37.0 | I | hPa | | 1000 | |
| cm3/1000 strokes | | 3 0 | Ţ | Supply pomp | • | , TOOD | |
| Shutoff solenoid | | 3.0 | I | pressure bar | | 7.0 | |
| Volt | • | 24 | I | pressure bar Tolerance hPa | • | 3.9 0.3 | |
| VOCC | • | 24 | Ţ | Shutoff solenoid | | 0.5 | |
| STARTING FUEL DEL | TUEDY | | 7 | Volt | | 24 | |
| STARTING FUEL DEL | TACKI | | I | νοτι | • | 24 | |
| Rated speed rpm | • | 100 | I | OVERFLOW QUANTITY | | | |
| Del. quantity | • | 100 | I | OVERTEON GOARTITT | | | |
| cm3/1000 strokes | • | 115 0 | \mathbf{I} | Rated speed rpm | | 1350 | |
| Tolerance | • | 115.0 | I | Aneroid pressure | | 1330 | |
| cm3/1000 strokes | • | 25 N | \mathbf{I} | hPa | | 1000 | |
| Shutoff solenoid | | 25.0 | 1 | Overflow quantity | • | 1000 | |
| Volt | | 24 | 1 | ccm/10s | | 97.2 | |
| *000 | • | | <u>.</u> | Tolerance | • | 77.2 | |
| | | | Γ | ccm/10s | | 41.6 | |
| | | | 1 | CCIII/ 103 | • | 41.0 | |
| | | | 1 | Check tolerance | | | |
| | | | | ccm/10s | : | 41.6 | |
| INJECTION-PUMP TE | ST SPE | CIFICATI | ons 1 | Shutoff solenoid | • | 71.0 | |
| | | | 1 | | | | |
| | | | . | Volt | : | 24 | |
| TIMING DEVICE CHA | RACTER | RISTIC | + | Volt | : | 24 | |
| TIMING DEVICE CHA | RACTER | RISTIC | ‡ | Rated speed rpm | : | | |
| | | RISTIC 1350 | † + | Rated speed rpm | | | |
| TIMING DEVICE CHAR Rated speed rpm Aneroid pressure | | | † | | | | |
| Rated speed rpm | | | † † † | Rated speed rpm Aneroid pressure hPa | : | 500 | |
| Rated speed rpm Aneroid pressure | | 1350 | † | Rated speed rpm Aneroid pressure | : | 500 | |
| Rated speed rpm Aneroid pressure | | 1350 | † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity | : | 5 <u>0</u> 0 1000 63.8 | |
| Rated speed rpm Aneroid pressure hPa | | 1350 1000 | † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s | : | 5 <u>0</u> 0 1000 | |
| Rated speed rpm Aneroid pressure hPa SV travel mm | | 1350 1000 6.7 0.4 | † † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance | : | 5 <u>0</u> 0 1000 63.8 | |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm | | 1350 1000 6.7 | † † † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance | : | 500 1000 63.8 22.2 | |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check | | 1350 1000 6.7 0.4 | † † † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s | : | 5 <u>0</u> 0 1000 63.8 | |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm | | 1350 1000 6.7 0.4 | † † † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid | : | 500 1000 63.8 22.2 | |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 | † † † † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s | : | 500 1000 63.8 22.2 | |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm | : 1 : : : | 1350 1000 6.7 0.4 0.7 | † † † † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt | : | 500 1000 63.8 22.2 22.2 | |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 | † † † † † † † | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid | : | 500 1000 63.8 22.2 22.2 | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 | † + + + + + + + + | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAK | : | 500 1000 63.8 22.2 22.2 24 24 24 CHARACTERIS | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 800 1000 | +++++++++++++++++++++++++++++++++++++++ | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAK | : | 500 1000 63.8 22.2 22.2 | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 800 1000 2.1 | +++++++++++++++++++++++++++++++++++++++ | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAK Rated speed rpm Aneroid pressure | : : : | 500 1000 63.8 22.2 22.2 24 24 24 CHARACTERIS | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 800 1000 | +++++++++++++++++++++++++++++++++++++++ | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAK Rated speed rpm Aneroid pressure hPa | : : : | 500 1000 63.8 22.2 22.2 24 24 24 CHARACTERIS | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 800 1000 2.1 0.4 | +++++++++++++++++++++++++++++++++++++++ | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAK Rated speed rpm Aneroid pressure hPa Del. quantity | : : : | 500 1000 63.8 22.2 22.2 24 24 24 CHARACTERIS 1500 1000 | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 800 1000 2.1 | +++++++++++++++++++++++++++++++++++++++ | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAK Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : : : | 500 1000 63.8 22.2 22.2 24 24 24 CHARACTERIS | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 800 1000 2.1 0.4 0.7 | +++++++++++++++++++++++++++++++++++++++ | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAM Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance | : : : : : : : | 500 1000 63.8 22.2 22.2 24 24 27 CHARACTERIS 1500 1000 37.0 | TIC |
| Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm Shutoff solenoid Volt Rated speed rpm Aneroid pressure hPa SV travel mm Tolerance mm Check tolerance mm | : 1 : : : | 1350 1000 6.7 0.4 0.7 24 800 1000 2.1 0.4 | +++++++++++++++++++++++++++++++++++++++ | Rated speed rpm Aneroid pressure hPa Overflow quantity ccm/10s Tolerance ccm/10s Check tolerance ccm/10s Shutoff solenoid Volt DELIVERY AND BREAK Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : : : : : : : | 500 1000 63.8 22.2 22.2 24 24 24 CHARACTERIS 1500 1000 | TIC |

| Check tolerance cm3/1000s. Shutoff solenoid | ; | 6.0 | ‡ | Check tolerance cm3/1000s. Shutoff solenoid | : | 3.5 | |
|---|---|--------------|---------------|--|------|-------------|--|
| Volt | : | 24 | 1 | Volt | : | 24 | |
| Rated speed rpm Aneroid pressure | : | 1600 | 1 | MECHANICAL SHUTOF | | | |
| hPa Del. quantity | : | 1000 | + | Rated speed rpm | | 1350 | |
| cm3/1000 strokes Tolerance | : | 1.5 | 1 | Aneroid pressure | • | 1000 | |
| cm3/1000 strokes Check tolerance | : | 1.5 | $\frac{1}{2}$ | Del. quantity cm3/1000 strokes | • | 1.5 | |
| cm3/1000s. Shutoff solenoid | : | 1.5 | <u> </u> | Tolerance cm3/1000 strokes | | 1.5 | |
| Volt | : | 24 | 1 | Check tolerance cm3/1000s. | • | 1.5 | |
| Rated speed rpm Aneroid pressure | : | 500 | ‡ | Shutoff solenoid | • | 24 | |
| hPa Del. quantity | : | 250 | 1 | | · | | |
| cm3/1000 strokes Tolerance | : | 79.5 | + | ELECTR. SHUTOFF CONTROL LEVER, ID | LE S | STOP | |
| cm3/1000 strokes Check tolerance | : | 0.5 | ‡ | Rated speed rpm | : | 350 | |
| cm3/1000s. Shutoff solenoid | : | 4.0 | + | Del. quantity cm3/1000 strokes | : | 1.5 | |
| Volt | : | 24 | + | Tolerance cm3/1000 strokes | : | 1.5 | |
| Rated speed rpm Aneroid pressure | : | 1350 | ++ | Check tolerance cm3/1000S. | : | 1.5 | |
| hPa Del. quantity | : | 1000 | ‡ | | | | |
| cm3/1000 strokes Tolerance | | 90.5 | ‡ | IDLE DELIVERY | | | |
| cm3/1000 strokes Check tolerance | : | 1.5 | ‡ | Rated speed rpm Del. quantity | : | 430 | |
| cm3/1000s. Shutoff solenoid | : | 3.5 | ‡ | cm3/1000 strokes Tolerance | | 1.5 | |
| Volt | • | 24 | ‡ | cm3/1000 strokes Check tolerance | : | 1.5 | |
| Rated speed rpm Aneroid pressure | : | 500 | Ŧ | cm3/1000s. Shutoff solenoid | : | 1.5 | |
| hPa Del. quantity cm3/1000 strokes | : | 1000 89.5 | Ŧ | Volt | • | 24 400 | |
| Tolerance cm3/1000 strokes | | 1.5 | <u> </u> | Rated speed rpm Del. quantity cm3/1000 strokes | • | 8.0 | |
| Check tolerance cm3/1000s. | • | 3.0 | $\frac{1}{1}$ | Tolerance cm3/1000 strokes | • | 5.0 | |
| Shutoff solenoid Volt | • | 24 | + | Shutoff solenoid Volt | • | 24 | |
| Rated speed rpm | : | 800 | ‡ | - 3 • • | · | _, | |
| Aneroid pressure | : | 1000 | ‡ | | | | |
| Del. quantity cm3/1000 strokes | : | 93.0 | ‡ | | | | |
| Tolerance cm3/1000 strokes | : | 0.5 | + | START TRANSITION | | | |

Rated speed rpm : 250

Del. quantity cm3/1000 strokes : 50.0

Tolerance

cm3/1000 strokes 10.0

Shutoff solenoid

Volt 24

Rated speed rpm 150

Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes 25.0

Shutoff solenoid

24 Volt

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 5,3 Dimension KF mm : +-0,02 Tolerance mm : 1,4 Dimension MS mm Tolerance mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.01.87 Test oil : ISO 4113

Part no. : 0 460 414 047 Pump designation : VE4/11F1200R277

Customer-spec. information Customer : CASE : D 268/885 Motor

TEST BENCH REQUIREMENTS

Overflow

restriction mm : 0.55

Inlet press. bar : 0.35 Tolerance bar : 0.05

Test nozzle holde

: 1 688 901 020 assembly

Opening pressure

bar 172 Tolerance bar

Test Lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 : 840 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 800

Setting mm : 5.5 0.2 Tolerance mm

SUPPLY PUMP PRESSURE

Rated speed rpm : 800

Setting hPa 4.0 Tolerance hPa 0.3

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 82.0

Tolerance

cm3/1000 strckes : 0.5

Spread

cm3/1000 strokes : 3.5

IDLE SETTING

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 18.5

Tolerance

cm3/1000 strokes : 2.0

Spread

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.5

FULL-LOAD SPEED REGULATION

Rated speed rpm : 1260

Del. quantity

cm3/1000 strokes : 57.0

Tolerance

cm3/1000 strokes : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : 25.0

INJECTION-PUMP TEST SPECIFICATIONS

TIMING DEVICE CHARACTERISTIC

Rated speed rpm : 1150

7.8

SV travel mm : Tolerance mm : 0.4

G27

| Check | † Del. quantity |
|---|---|
| tolerance mm : 0.7 | + cm3/1000 strokes : 1.5 + Tolerance |
| Rated speed rpm : 500 | + cm3/1000 strokes : 1.5 |
| SV travel mm : 3.0 | the Check tolerance cm3/1000s. : 1.5 |
| Tolerance mm : 0.4 Check | + Rated speed rpm : 1320 |
| tolerance mm : 0.7 | Del. quantity cm3/1000 strokes : 25.0 |
| SUPPLY PUMP PRESSURE CHARACTERISTIC | Tolerance cm3/1000 strokes : 15.0 |
| Rated speed rpm : 1150 | - Check tolerance |
| Supply pomp pressure bar : 5.3 | + cm3/1000s. : 15.0 |
| Tolerance hPa : 0.3 | Rated speed rpm : 1150 Del. quantity |
| Rated speed rpm : 500 Supply pomp | cm3/1000 strokes : 85.5 |
| pressure bar : 2.9 | + cm3/1000 strokes : 1.5 |
| Tolerance hPa : 0.3 | + Check tolerance + cm3/1000s. : 3.0 |
| OVERFLOW QUANTITY | + + Rated speed rpm : 500 |
| Rated speed rpm : 1150 | + Del. quantity |
| Overflow quantity ccm/10s : 97.2 | + cm3/1000 strokes : 77.5 + Tolerance |
| Tolerance | + cm3/1000 strokes : 2.0 |
| ccm/10s : 41.6 | + Check tolerance + cm3/1000s. : 3.5 |
| Check tolerance : 41.6 | + Rated speed rpm : 800 |
| CCIII/ 10S . 41.0 | + Del. quantity |
| Rated speed rpm : 500 Overflow quantity | + cm3/1000 strokes : 82.0 + Tolerance |
| ccm/10s : 63.8 | cm3/1000 strokes : 0.5 |
| Tolerance ccm/10s : 22.2 | + Check tolerance + cm3/1000s. : 2.5 |
| Check tolerance | † |
| ccm/10s : 22.2 | MECHANICAL SHUTOFF |
| DELIVERY AND BREAKAWAY CHARACTERISTIC | + Rated speed rpm : 1150 |
| Rated speed rpm : 1260 | + Del. quantity + cm3/1000 strokes : 1.5 |
| Del. quantity cm3/1000 strokes : 57.0 | Tolerance cm3/1000 strokes : 1.5 |
| Tolerance | † Check tolerance |
| cm3/1000 strokes : 3.0 Check tolerance | + cm3/1000s. : 1.5 |
| cm3/1000s. : 4.5 | İ |
| Rated speed rpm : 1370 Del. quantity | IDLE DELIVERY |
| cm3/1000 strokes : 5.0 | Rated speed rpm : 450 Del. quantity |
| Check tolerance cm3/1000s. : 5.0 | + cm3/1000 strokes : 2.0 |
| Rated speed rpm : 1400 | Tolerance cm3/1000 strokes : 2.0 |
| | Ť |

Check tolerance cm3/1000s. : 2.0

START TRANSITION

Rated speed rpm : 450

Del. quantity

cm3/1000 strokes : 70.0

Tolerance

cm3/1000 strokes : 10.0

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

25.0 cm3/1000 strokes :

ASSEMBLY AND ADJUSTMENT DIMENSIONS

Dimension K mm : 3,3 : +-0,1 Tolerance mm Dimension KF mm : 5,5 Tolerance mm : +0.2Dimension MS mm : 1,3 Tolerance mm : +-0,2

CONTROL LEVER POSITION SET

Control lever

: 37,2..39,2 position YA mm

Control lever

position YB mm : 50,1..58,3

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.08.94 Edition Test oil : ISO 4113

: 0 460 426 149 Part no. Pump designation: VE6/12F1250R373-3

Customer-spec. information

Customer

: CDC

Motor : 6 BTA-590

TEST BENCH REQUIREMENTS

Overflow

restriction mm 0.55

Inlet press. bar : 0.35 Tolerance bar

Test nozzle holde

: 1 688 901 027 assembly

Opening pressure

250 Tolerance bar

Test lines : 1 680 750 000

Outside diameter : 6.00

2.00 x inside diameter : x length mm 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 1,85 Tolerance mm : +0,02

Outlet

Prestroke

(as of UT) mm : 0,3 Tolerance mm : +-0,02

Check

tolerance mm : +-0,04

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm 750

Aneroid pressure

1000

1.6 Setting mm Tolerance mm 0.2

SUPPLY PUMP PRESSURE

750 Rated speed rpm

Aneroid pressure

hPa 1000

Setting hPa 3.5 Tolerance hPa 0.3

FULL-LOAD DELIVERY WITH BOOST PRESSURE

750 Rated speed rpm :

Aneroid pressure

1000

Del. quantity cm3/1000 strokes : 82.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s.4.5

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 40.5

Tolerance

cm3/1000 strokes : 0.5

Check tolerance

cm3/1000s. 4.5

IDLE SETTING

375 Rated speed rpm

Del. quantity

cm3/1000 strokes : 6.0

Tolerance

cm3/1000 strokes : 2.0

Spread

cm3/1000 strokes : 5.5

H02

| Check tolerance cm3/1000s. | : 7.0 | ++ | Supply pomp pressure bar Tolerance hPa | : | 2.4 0.3 |
|---------------------------------------|---------------------------|----|---|------|------------------|
| FULL-LOAD SPEED F | REGULATION | Ī | OVERFLOW QUANTITY | | |
| Rated speed rpm Pressure hPa | : 1300 : 1000 | + | Rated speed rpm Aneroid pressure | : | 1250 |
| Del. quantity cm3/1000 strokes | : 68.0 | + | hPa Overflow quantity | : | 1000 |
| Tolerance cm3/1000 strokes | : 3.0 | † | ccm/10s Tolerance | : | 97.2 |
| STARTING FUEL DEL | LIVERY | Ī | ccm/10s Check tolerance | • | 41.6 |
| Rated speed rpm Del. quantity | : 100 | 1 | ccm/10s | : | 41.6 |
| cm3/1000 strokes Tolerance | | + | Rated speed rpm Overflow quantity | | |
| cm3/1000 strokes | : 25.0 | ‡ | ccm/10s Tolerance | : | 62.5 |
| | | ‡ | ccm/10s | : | 20.8 |
| TN IECTION-DIME TE | EST SPECIFICATIONS | | Check tolerance ccm/10s | : | 20.8 |
| TIMING DEVICE CHA | | Ţ | DELIVERY AND BREAK | KAWA | Y CHARACTERISTIC |
| Rated speed rpm | | ‡ | Rated speed rpm Aneroid pressure | : | 1300 |
| Aneroid pressure hPa | : 1000 | | hPa Del. quantity | : | 1000 |
| SV travel mm | : 2.7 | | cm3/1000 strokes Tolerance | | |
| Tolerance mm Check tolerance mm | : 0.4 : 0.7 | + | cm3/1000 strokes Check tolerance cm3/1000s. | | 3.0 6.0 |
| Rated speed rpm | | + | Rated speed rpm | : | |
| Aneroid pressure | : 1000 | + | Aneroid pressure hPa | : | 1000 |
| SV travel mm | : 0,8 | ‡ | Del. quantity cm3/1000 strokes | : | 35.0 |
| Tolerance mm Check | : 0.4 | | Check tolerance cm3/1000S. | : | 20.0 |
| tolerance mm | : 0.7 | | Rated speed rpm | : | 1400 |
| Rated speed rpm | SURE CHARACTERISTIC: 1050 | + | Aneroid pressure hPa Del. quantity | : | 1000 |
| Aneroid pressure | : 1000 | + | cm3/1000 strokes Tolerance | : | 1.5 |
| Supply pomp pressure bar | : 4.6 | + | cm3/1000 strokes Check tolerance | : | 1.5 |
| Tolerance hPa | : 0.3 | + | cm3/1000s. | : | 1.5 |
| Rated speed rpm Aneroid pressure | : 500 | + | Rated speed rpm Aneroid pressure | : | 700 |
| hPa | : 1000 | ‡ | hPa | : | 450 |

| Del. quantity | 4 == | + | | |
|-------------------------------------|--------|------|--------------------------------|-------------------|
| cm3/1000 strokes Tolerance | : 67 | ·.5 | IDLE DELIVERY | |
| cm3/1000 strokes | : 0 | .5 | Rated speed rpm | : 500 |
| Check tolerance | | + | Del. quantity | . 300 |
| cm3/1000s. | : 4 | .5 | cm3/1000 strokes | : 2.0 |
| Rated speed rpm | : 1250 | 1 | Tolerance cm3/1000 strokes | : 2.0 |
| Aneroid pressure | | 1 | Check tolerance | . 2.0 |
| hPa | : 10 | 00 + | cm3/1000s. | : 2.0 |
| Del. quantity cm3/1000 strokes | : 76 | , † | | |
| Tolerance | . 70 | ·· I | | |
| cm3/1000 strokes | : 1 | .5 | | |
| Check tolerance | . • | + | | |
| cm3/1000s. | : 3 | .0 | START TRANSITION | |
| Rated speed rpm | : 1050 | 1 | OTAIN! TIMINOTTION | |
| Aneroid pressure | | + | Rated speed rpm | : 420 |
| hPa | : 10 | 00 + | Del. quantity cm3/1000 strokes | : 40.0 |
| Del. quantity cm3/1000 strokes | : 80 | .0 I | Tolerance | . 40.0 |
| Tolerance | | + | cm3/1000 strokes | : 20.0 |
| cm3/1000 strokes | : 1 | .5 | | |
| Check tolerance cm3/1000s. | : 3 | .0 ‡ | Rated speed rpm | : 240 |
| (1107 10003. | , , | 1 | Del. quantity | . 240 |
| Rated speed rpm | : 500 | + | cm3/1000 strokes | : 100.0 |
| Aneroid pressure hPa | : 10 | nn † | Tolerance cm3/1000 strokes | : 25.0 |
| Del. quantity | . 10 | | CIID/ TOOD SCHOKES | . 23.0 |
| cm3/1000 strokes | : 82 | .5 | | |
| Tolerance | | + | ASSEMBLY AND ADJU | STMENT DIMENSIONS |
| cm3/1000 strokes | ; 4 | .0 🖠 | Dimension KF mm | : 5,2 |
| Rated speed rpm | : 750 | + | Tolerance mm | : +-0,2 |
| Aneroid pressure | | + | MS1 dimension mm | |
| hPa Del. quantity | : 10 | DU 1 | Tolerance mm | : +0,15/-0,1 |
| cm3/1000 strokes | : 82 | .5 | | |
| Tolerance | | _ + | | |
| cm3/1000 strokes Check tolerance | : 0 | .5 | CONTROL LEVER POS | LITION |
| cm3/1000s. | : 3 | .0 | 361 | |
| | | † | Control lever | |
| MECHANICAL SHUTOF | F | Ŧ | position YA mm | : 34,838,8 |
| Pated speed rpm | : 1250 | Ī | Control lever | |
| Aneroid pressure | | + | position YB mm | : 43,748,1 |
| hPa | : 100 | 00 + | | |
| Del. quantity cm3/1000 strokes | : 1 | .5 | | |
| Tolerance | | + | | |
| cm3/1000 strokes Check tolerance | : 1. | .5 | End of test-speci | fication sheet |
| cm3/1000s. | : 1. | .5 | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.07.96 Test oil : ISO 4113

Part no. : 0 460 494 362 Pump designation : VE4/9F2330R597-1

Customer-spec. information

Customer : VW

Motor : 1,9 L UD A3/B4

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C : 45
Tolerance °C : 1

Overf (

restrice នៃ រក់ : 0.55

Inlet press. bar : 0.35
Tolerance bar : 0.05

Test nozzle holde

assembly : 1 688 901 000

Opening pressure

bar : 147 Tolerance bar : 3

Test lines : 1 680 750 000

Outside diameter : 6.00

x inside diameter: 2.00 x length mm : 840

REMARKS

BEGINNING OF DELIVERY

Start of delivery blocking

Plunger stroke mm : 0,8 Tolerance mm : +-0,02

Outlet : A

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250 Aneroid pressure

hPa : 750

Setting mm : 4.4 Tolerance mm : 0.1

Shutoff solenoid

Volt : 12

SUPPLY PUMP PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa : 750

Setting hPa : 5.7 Tolerance hPa : 0.3

Shutoff solenoid

Volt : 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

Rated speed rpm : 1250

Aneroid pressure

hPa : 750

Del. quantity

cm3/1000 strokes : 50.5

Tolerance

cm3/1000 strokes : 0.5

Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 3.0

Shutoff solenoid

Volt : 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Check tolerance

cm3/1000s. : 3.0

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm : 550

Del. quantity

cm3/1000 strokes : 7.5

Tolerance

cm3/1000 strokes : 0.5

H05

| Shutoff solenoid + | |
|--|--|
| Volt : 12 | INJECTION-PUMP TEST SPECIFICATIONS |
| FULL-LOAD SPEED REGULATION + | TIMING DEVICE CHARACTERISTIC |
| Rated speed rpm : 2600 + Pressure hPa : 750 + | Rated speed rpm : 2100 |
| Del. quantity cm3/1000 strokes : 11.0 | Aneroid pressure hPa : 750 |
| Tolerance + cm3/1000 strokes : 2.0 + Shutoff solenoid + cm3/1000 strokes : 2.0 + cm3/1000 stroke | SV travel mm : 8.3 Tolerance mm : 0.3 |
| Volt : 12 | Check tolerance mm : 0.8 |
| SET GRADUATED STARTING DELIVERY | Shutoff solenoid Volt : 12 |
| CONTROL LEVER, IDLE STOP | Rated speed rpm : 750 |
| Rated speed rpm : 100 + Del. quantity + | Aneroid pressure hPa : 750 |
| cm3/1000 strokes : 40.0 + | SV travel mm : 1.8 |
| cm3/1000 strokes : 3.0 + Shutoff solenoid + Volt : 12 | Tolerance mm : 0.3 Check tolerance mm : 0.8 |
| Volt : 12 | tolerance mm : 0.8 Shutoff solenoid Volt : 12 |
| LOAD-DEPENDENT START OF DELIVERY SETTING | SUPPLY PUMP PRESSURE CHARACTERISTIC |
| DELIVERY DIFFERENCE + | Rated speed rpm : 2100 |
| Rated speed rpm : 1250 | Aneroid pressure hPa : 750 |
| Del. quantity cm3/1000 strokes : -5.5 | Supply pomp pressure bar : 7.7 |
| Tolerance + cm3/1000 strokes : 1.0 + Shutoff solenoid + | Tolerance hPa : 0.3 Shutoff solenoid Volt : 12 |
| Volt : 12 | Rated speed rpm : 750 |
| PRESSURE DIFFERENCE | Aneroid pressure hPa : 750 |
| Rated speed rpm : 1250 + Del. quantity + | Supply pomp pressure bar : 4.6 |
| cm3/1000 strokes : -0.2 | Tolerance hPa : 0.3 Shutoff solenoid |
| cm3/1000 strckes : 0.1 + Shutoff solenoid + Volt : 12 | Volt : 12 |
| Volt : 12 + TIMING-DEVICE TRAVEL DIFFERENCE + | OVERFLOW QUANTITY Rated speed rpm : 1250 |
| Rated speed rpm : 1250 | Aneroid pressure hPa : 750 |
| Del. quantity cm3/1000 strokes : -2.0 | Overflow quantity ccm/10s : 77.7 |
| Tolerance cm3/1000 strokes : 0.1 | Tolerance ccm/10s : 22.2 |
| Shutoff solenoid Volt : 12 | Check tolerance ccm/10s : 34.7 |
| | |

| Shutoff solenoid Volt | : 12 | ‡ | Tolerance cm3/1000 strokes | : | 1.0 | |
|--|----------------|---------------|---|------|-------------|--|
| Rated speed rpm | : 2100 | ‡ | Check tolerance cm3/1000s. | : | 2.2 | |
| Aneroid pressure hPa | : 750 | ‡ | Shutoff solenoid Volt | : | 12 | |
| Overflow quantity ccm/10s Tolerance | : 97.2 | ‡ | Rated speed rpm Del. quantity | : | 450 | |
| ccm/10s | : 41.6 | $\frac{1}{2}$ | cm3/1000 strokes Tolerance | : | 40.2 | |
| Check tolerance ccm/10s | : 55.5 | ‡ | cm3/1000 strokes Check tolerance | : | 3.0 | |
| Shutoff solenoid Volt | : 12 | ‡ | cm3/1000s. Shutoff solenoid | : | 5.5 | |
| DELIVERY AND BREAK | KAWAY CHARACT | TERISTIC + | Volt | : | 12 | |
| Rated speed rpm | : 2600 | ‡ | Rated speed rpm Aneroid pressure | : | | |
| Aneroid pressure hPa | : 750 | ‡ | hPa Del. quantity | : | 750 50.5 | |
| Del. quantity cm3/1000 strokes Tolerance | : 11.0 | Ŧ | cm3/1000 strokes Tolerance cm3/1000 strokes | | 50.5 0.5 | |
| cm3/1000 strokes Check tolerance | : 2.0 | $\frac{1}{2}$ | Check tolerance cm3/1000s. | | 2.2 | |
| cm3/1000s. Shutoff solenoid | : 4.0 | ‡ | Shutoff solenoid Volt | : | 12 | |
| Volt | : 12 | ‡ | Rated speed rpm | : | 700 | |
| Rated speed rpm Aneroid pressure | : 2400 | ‡ | Aneroid pressure hPa | : | 180 | |
| hPa Del. quantity | : 750 | ‡ | Tolerance cm3/1000 strokes | : | 0.5 | |
| cm3/1000 strokes Tolerance | | ‡ | Check tolerance cm3/1000s. | : | 0.5 | |
| cm3/1000 strokes Check tolerance | : 5.0 : 6.0 | ‡ | Check tolerance cm3/1000s. Shutoff solenoid | : | 0.5 | |
| cm3/1000S. Shutoff solenoid Volt | : 12 | Ŧ | Volt | : | 12 | |
| Rated speed rpm | : 2750 | <u> </u> | Rated speed rpm Aneroid pressure | : | 700 | |
| Aneroid pressure | : 750 | + | hPa Del. quantity | : | 300 | |
| Del. quantity cm3/1000 strokes | : 1.5 | + | cm3/1000 strokes Check tolerance | : | 6.0 | |
| Tolerance cm3/1000 strokes | : 1.5 | + | cm3/1000S. Shutoff solenoid | : | 1.0 | |
| Check tolerance cm3/1000s. | : 1.5 | ‡ | Volt | : | 12 | |
| Shutoff solenoid Yolt | : 12 | ‡ | ELECTR CULTOES | | | |
| Rated speed rpm Aneroid pressure | : 2100 | - | ELECTR. SHUTOFF CONTROL LEVER, ID | LE S | TOP | |
| hPa Del. quantity | : 750 | I | Rated speed rpm Del. quantity | : | 450 | |
| cm3/1000 strokes | : 43.0 | - | cm3/1000 strokes | : | 1.5 | |

| Tolerance | | + Check tolerance | |
|---------------------|---|---------------------------------|---------------------|
| cm3/1000 strokes | : 1.5 | + cm3/1000s. | : 1.5 |
| Check tolerance | | + Shutoff solenoid | |
| cm3/1000s. | : 1.5 | + Volt | : 12 |
| Spread | | 1 | |
| cm3/1000 strokes | : 5.0 | | INCE |
| CILDY 1000 SET ONES | . 5.0 | T TRESCORE DITTERE | |
| FULL-LOAD STOP CO | ONITROL LEVER | Rated speed rpm | : 1250 |
| FULL -LOAD STOP CO | MAIROL LEVER | | . 1250 |
| Datad aread man | : 450 | + Supply pomp + pressure bar | . 13 |
| Rated speed rpm | : 450 | | |
| Del. quantity | . 4.5 | + Tolerance hPa | : 0.2 |
| cm3/1000 strokes | : 1.5 | + Shutoff solenoid | |
| Tolerance | 4 - | † Volt | : 12 |
| cm3/1000 strokes | : 1.5 | † | |
| Spread | | + TIMING-DEVICE TR | RAVEL DIFFERENCE |
| cm3/1000 strokes | : 5.0 | † | |
| Check tolerance | | + Rated speed rpm | |
| cm3/1000s. | : 1.5 | + Tolerance mm | : 0.2 |
| Spread | | + Check | |
| cm3/1000 strokes | : 5.0 | + tolerance mm | : 0.6 |
| | | → Shutoff solenoid | 1 |
| | | → Volt | : 12 |
| | | 1 | |
| | | | |
| | | | RCULATION |
| | | | |
| CHECKING LOAD-DEF | PENDENT | + Rated speed rpm | : 1000 |
| START OF DELIVERY | | + Aneroid pressure | |
| START OF PERTYER | • | hPa | · 750 |
| DELIVERY DIFFEREN | NCE | Del. quantity | . 130 |
| DECIVER! DIFFEREN | VCE | cm3/1000 strokes | 35.0 |
| Datad aread man | . 1250 | | 5 : 55.0 |
| Rated speed rpm | : 1250 | + Tolerance | 1.0 |
| Del. quantity | 0.0 | + cm3/1000 strokes | |
| cm3/1000 strokes | : -9.0 | + Check tolerance | |
| Tolerance | | + cm3/1000s. | : 3.0 |
| cm3/1000 strokes | : 2.0 | + Shutoff solenoid | |
| Check tolerance | | + Volt | : 12 |
| cm3/1000s. | : 4.0 | + | |
| Shutoff solenoid | | + START TRANSITION | 1 |
| Volt | : 12 | + | |
| | | + Rated speed rpm | : 380 |
| TIMING-DEVICE TRA | AVEL DIFFERENCE | + Del. quantity | |
| | | + cm3/1000 strokes | : 41.0 |
| Rated speed rpm | : 1250 | + Tolerance | |
| Del. quantity | | → cm3/1000 strokes | : 10.0 |
| cm3/1000 strokes | : -2.0 | + Shutoff solenoid | 1 |
| Tolerance | | ∔ Volt | : 12 |
| cm3/1000 strokes | : 0.1 | + | |
| Check tolerance | | 1 | |
| cm3/1000s. | : 0.1 | Rated speed rpm | : 180 |
| Shutoff solenoid | • | + Del. quantity | |
| Volt | : 12 | + cm3/1000 strokes | : 45.0 |
| 1011 | • • | Tolerance | T2.0 |
| DELTIVEDY DIFFEDEN | ICE | cm3/1000 strokes | : 10.0 |
| DELIVERY DIFFEREN | 10L | Shutoff solenoid | |
| Datad aread are | . 1250 | | 4.0 |
| Rated speed rpm | : 1250 | † Volt | : 12 |
| Del. quantity | . 4 - | Ť | |
| cm3/1000 strokes | : 1.5 | 4000000 | HOTHERIT DIRECTORIO |
| Tolerance | 4.5 | + ASSEMBLY AND ADJ | USTMENT DIMENSIONS |
| cm3/1000 strokes | : 1.5 | + | |
| | | | |

H08

Dimension K mm : 3,7 Tolerance mm : +-0,1 Dimension KF mm : 6,0 Toterance mm : +-0,2
Dimension MS mm : 1,2
Tolerance mm : +-0,2

MICROSWITCH

SET

: 0,8...3,0 : ARF 12,0

CONTROL LEVER POSITION SET

Control lever

position YA mm : 37,6..41,6

Control lever

position YB mm : 50,4..53,3

BOSCH INJ. PUMP TEST SPECIFICATIONS Rated speed rpm 1250 Aneroid pressure Note remarks hPa Refer to Service Info for test and Setting mm adjustment instructions. Tolerance mm See microcard(s) W400/... Shutoff solenoid Volt Edition : 22.06.94 SUPPLY PUMP PRESSURE Test oil : ISO 4113 : 0 460 494 373 Part no. Rated speed rpm 1250 Pump designation: VE4/9F2300R597-4 Aneroid pressure hPa Customer-spec. information Setting hPa : Tolerance hPa Customer : VW : 1,9 L UD A3 Shutoff solenoid Motor Volt FULL-LOAD DELIVERY WITH BOOST PRESSURE TEST BENCH REQUIREMENTS Calibrating-oil 1250 Rated speed rpm Aneroid pressure return temperature °C 45 hPa Tolerance °C Del. quantity cm3/1000 strokes : 50.5 Overflow Tolerance cm3/1000 strokes : 0.55 restriction mm Spread cm3/1000 strokes : Inlet press. bar : 0.35 Check tolerance cm3/1000s. Tolerance bar 0.05 Shutoff solenoid Volt Test nozzle holde : 1 688 901 000 FULL-LOAD DELIV. WITHOUT BOOST PRESSURE assembly Opening pressure Check tolerance 147 cm3/1000s. Tolerance bar HOUSING-FIXED IDLE SPRING Test lines : 1 680 750 000 RESIDUAL QUANTITY SETTING Outside diameter : 6.00 550 Rated speed rpm Del. quantity cm3/1000 strokes : x inside diameter : 2.00 840 Tolerance x length mm cm3/1000 strokes Shutoff solenoid **REMARKS** Volt Rated speed rpm INJECTION PUMP SETTING VALUES Pressure hPa Del. quantity cm3/1000 strokes : TIMING DEVICE TRAVEL

0.5 12 FULL-LOAD SPEED REGULATION 2600 750 11.0

750

4.4

0.1

12

750

5.7

0.3

12

750

0.5

2.5

3.0

12

3.0

7.5

| Tolerance | 2.2 | + Check | 2.2 |
|---------------------|-------------------|--|--------------------|
| cm3/1000 strokes | | + tolerance mm | : 0.8 |
| Shutoff solenoid | | + Shutoff solenoid | 42 |
| Volt | : 12 | † Volt | : 12 |
| | | T Pated speed non | : 750 |
| SET GRADUATED STA | APTING DELIVERY | + Rated speed rpm + Aneroid pressure | . 750 |
| CONTROL LEVER, II | | + hPa | : 750 |
| COMMON PEACH IN | , EE 0101 | <u> </u> | . 750 |
| Rated speed rpm | : 100 | + SV travel mm | : 1.8 |
| Del. quantity | | + Tolerance mm | : 0.3 |
| cm3/1000 strokes | : 40.0 | + Check | |
| Tolerance | | † tolerance mm | : 0.8 |
| cm3/1000 strokes | : 3.0 | + Shutoff solenoid | |
| Shutoff solenoid | | † Volt | : 12 |
| Volt | : 12 | † | |
| | | + SUPPLY PUMP PRESSU | JRE CHARACTERISTIC |
| LOAD-DEPENDENT ST | TART OF BELTIVERY | + Rated speed rpm | : 2100 |
| SETTING | ARI OF DELIVERY | Aneroid pressure | . 2100 |
| OCT TING | | + hPa | : 750 |
| DELIVERY DIFFEREN | ICF | + Supply pomp | . 155 |
| 72272111 7211211 | | + pressure bar | : 7.7 |
| Rated speed rpm | : 1250 | + Tolerance hPa | : 0.3 |
| Del. quantity | | + Shutoff solenoid | |
| cm3/1000 strokes | : -5.5 | → Volt | : 12 |
| Tolerance | | + | |
| cm3/1000 strokes | : 1.0 | + Rated speed rpm | : 750 |
| Shutoff solenoid | : 12 | + Aneroid pressure | : 750 |
| Volt | : 12 | + hPa | : 750 |
| PRESSURE DIFFEREN | ICE | + Supply pomp + pressure bar | : 4.6 |
| THEOSONE DITTEREN | | + Tolerance hPa | : 0.3 |
| Rated speed rpm | : 1250 | + Shutoff solenoid | . 0.0 |
| Del. quantity | | Volt | : 12 |
| cm3/1000 strokes | : -0.2 | + | |
| Tolerance | | + OVERFLOW QUANTITY | |
| cm3/1000 strokes | : 0.1 | + | |
| Shutoff solenoid | | + Rated speed rpm | |
| Volt | : 12 | + Aneroid pressure | 700 |
| TIMING DELICE TO | VCI NICECOTACE | + hPa + Overflow quantity | : 750 |
| TIMING-DEVICE TRA | VEL DIFFERENCE | + ccm/10s | : 77.7 |
| Rated speed rpm | : 1250 | Tolerance | . (1.1 |
| Del. quantity | . 1230 | + ccm/10s | : 22.2 |
| cm3/1000 strokes | : -2.0 | + | |
| Tolerance | | + Check tolerance | |
| cm3/1000 strokes | : 0.1 | + ccm/10s | : 34.7 |
| Shutoff solenoid | | + Shutoff solenoid | |
| Volt | : 12 | + Volt | : 12 |
| | | † Dated aread are | . 2100 |
| INJECTION-PUMP TE | CT CDECIFICATIONS | Rated speed rpmAneroid pressure | : 2100 |
| TIANECTION-LOUIL LE | 91 SECTETONITONS | + hPa | : 750 |
| TIMING DEVICE CHA | RACTERISTIC | Overflow quantity | . , , , , |
| | | + ccm/10s | : 97.2 |
| Rated speed rpm | : 2100 | + Tolerance | |
| Aneroid pressure | | + ccm/10s | : 41.6 |
| hPa | : 750 | † | |
| Tolerance mm | : 0.3 | + | |
| | | | |

| | | | + | Tolerance | | | |
|-------------------------------------|-----|-------------------|--------------|----------------------------------|-------|-------|-------------|
| Check tolerance | | rr r | + | cm3/1000 strokes | : | 3.0 | |
| ccm/10s Shutoff solenoid | : | 55.5 | † | Check tolerance cm3/1000s. | | 5.5 | |
| Volt | • | 12 | I | Shutoff solenoid | • | ر. ر | |
| 1011 | • | | 1 | Volt | : | 12 | |
| DELIVERY AND BREA | KAW | AY CHARACTERISTIC | + | | | | |
| | | | + | Rated speed rpm | : | 1250 | |
| Rated speed rpm | : | 2600 | + | Aneroid pressure | | 750 | |
| Aneroid pressure | | 750 | † | hPa | : | 750 | |
| hPa Del. quantity | • | 750 | Ī | Del. quantity cm3/1000 strokes | | 50.5 | |
| cm3/1000 strokes | : | 11.0 | I | Tolerance | • | 50.5 | |
| Tolerance | • | | <u> </u> | cm3/1000 strokes | : | 0.5 | |
| cm3/1000 strokes | : | 2.0 | + | Check tolerance | | | |
| Check tolerance | | | + | cm3/1000s. | : | 2.2 | |
| cm3/1000s. | : | 4.0 | † | Shutoff solenoid | | 12 | |
| Shutoff solenoid Volt | | 12 | † | Volt | : | 12 | |
| VOLL | • | 12 | I | Rated speed rpm | : | 700 | |
| Rated speed rpm | : | 2400 | 1 | Aneroid pressure | • | , 00 | |
| Aneroid pressure | | | + | hPa | : | 180 | |
| hPa | : | 750 | + | Tolerance | | | |
| Del. quantity | | 77.5 | + | cm3/1000 strokes | : | 0.5 | |
| cm3/1000 strokes | : | 37.5 | † | Check tolerance | | 0.5 | |
| Tolerance cm3/1000 strokes | | 5.0 | Ī | cm3/1000S. Check tolerance | : | 0.5 | |
| Check tolerance | • | ٥.0 | I | cm3/1000s. | • | 0.5 | |
| cm3/1000s. | : | 6.0 | 1 | Shutoff solenoid | • | 0.5 | |
| Shutoff solenoid | | | + | Volt | : | 12 | |
| Volt | : | 12 | + | | | | |
| 5 () | | 2750 | † | Rated speed rpm | : | 700 | |
| Rated speed rpm Aneroid pressure | : | 2750 | † | Aneroid pressure hPa | | 300 | |
| hPa | | 750 | I | Del. quantity | • | 200 | |
| Del. quantity | • | 170 | 1 | cm3/1000 strokes | : | 6.0 | |
| cm3/1000 strokes | : | 1.5 | | Check tolerance | | | |
| Tolerance | | | + | cm3/1000s. | : | 1.0 | |
| cm3/1000 strokes | : | 1.5 | † | Shutoff solenoid | | 40 | |
| Check tolerance | | 1.5 | † | Volt | : | 12 | |
| cm3/1000s. Shutoff solenoid | • | 1.5 | Ī | | | | |
| Volt | : | 12 | 1 | | | | |
| | | _ | + | ELECTR. SHUTOFF | | | |
| Rated speed rpm | : | 2100 | + | CONTROL LEVER, ID | LE ST | OP | |
| Aneroid pressure | | 700 | + | 0-1-1-1-1-1 | | /50 | |
| hPa | : | 750 | † | Rated speed rpm Del. quantity | : | 450 | |
| Del. quantity cm3/1000 strokes | | 43.0 | I | cm3/1000 strokes | • | 1.5 | |
| Tolerance | • | 75.0 | 1 | Tolerance | • | 1.5 | |
| cm3/1000 strokes | : | 1.0 | + | cm3/1000 strokes | : | 1.5 | |
| Check tolerance | | | + | Check tolerance | | | |
| cm3/1000s. | : | 2.2 | † | cm3/1000s. | : | 1.5 | |
| Shutoff solenoid | • | 12 | † | Spread cm3/1000 strokes | • | 5.0 | |
| Volt | • | 16 | I | Chia/ Tood Strokes | • | ٠.٥ | |
| Rated speed rpm | : | 450 | 1 | FULL-LOAD STOP CO. | NTROL | LEVER | |
| Del. quantity | | | + | | | | |
| cm3/1000 strokes | : | 40.2 | + | Rated speed rpm | : | 450 | |
| | | | + | | | | |
| | | | | | | | |

| Del. quantity | | + Shutoff solenoid |
|--------------------------------------|-----------------|---|
| cm3/1000 strokes | : 1.5 | Volt : 12 |
| Tolerance cm3/1000 strokes | : 1.5 | TIMING-DEVICE TRAVEL DIFFERENCE |
| Spread cm3/1000 strokes | : 5.0 | Rated speed rpm : 1250 |
| Check tolerance cm3/1000s. | : 1.5 | + Tolerance mm : 0.2 + Check |
| Spread cm3/1000 strokes | : 5.0 | tolerance mm : 0.6 Shutoff solenoid |
| | | + Volt : 12 |
| | | EXHAUST-GAS RECIRCULATION |
| CHECKING LOAD-DEF | DENIDENT | Rated speed rpm : 1000 Aneroid pressure |
| START OF DELIVERY | | + hPa : 750 |
| DELIVERY DIFFEREN | ICE | + Del. quantity + cm3/1000 strokes : 35.0 |
| Rated speed rpm | : 1250 | Tolerance cm3/1000 strokes : 1.0 |
| Del. quantity cm3/1000 strokes | : -9.0 | Check tolerance : 3.0 |
| Tolerance cm3/1000 strokes | : 2.0 | Shutoff solenoid Volt : 12 |
| Check tolerance cm3/1000s. | : 4.0 | + START TRANSITION |
| Shutoff solenoid Volt | : 12 | Rated speed rpm : 380 |
| TIMING-DEVICE TRA | VEL DIFFERENCE | + Del. quantity + cm3/1000 strokes : 41.0 |
| Rated speed rpm | : 1250 | Tolerance cm3/1000 strokes : 10.0 |
| Del. quantity cm3/1000 strokes | : -2.0 | + Shutoff solenoid + Volt : 12 |
| Tolerance cm3/1000 strokes | : 0.1 | ‡ |
| Check tolerance cm3/1000s. | : 0.1 | Rated speed rpm : 180 Del. quantity |
| Shutoff solenoid Volt | | cm3/1000 strokes : 45.0 Tolerance |
| DELIVERY DIFFEREN | | cm3/1000 strokes : 10.0 Shutoff solenoid |
| Rated speed rpm | | Volt : 12 |
| Del. quantity cm3/1000 strokes | | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| Tolerance | | + |
| cm3/1000 strokes Shutoff solenoid | | Dimension K mm : 3,7 Tolerance mm : +-0,1 Dimension KF mm : 6,0 |
| Volt | : 12 | + Tolerance mm : +-0,2 |
| PRESSURE DIFFEREN | | Dimension MS mm : 1,2 Tolerance mm : +-0,2 |
| Rated speed rpm Supply pomp | | ‡ |
| pressure bar Tolerance hPa | : -1.2 : 0.2 | MICROSWITCH SET |

: 0,8...3,0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.08.95 Edition : ISO 4113 Test oil

: 0 460 494 414 Part no. Pump designation: VE4/9F2300R597-5

Customer-spec. information

Customer : VW

: 1,9 L UD A3 / B4 Motor

Power KW 55.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

0.55 restriction mm

0.35 Inlet press. bar : 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 000 assembly

Opening pressure

147 bar Tolerance bar 3

: 1 680 750 000 Test lines

Outside diameter : 6.00

x inside diameter : 2.00 840 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1250

Aneroid pressure

750

4.4 Setting mm Tolerance mm 0.1

Shutoff solenoid 12 Volt

SUPPLY PUMP PRESSURE

1250 Rated speed rpm Aneroid pressure

hPa 750

Setting hPa 5.7 Tolerance hPa 0.3

Shutoff solenoid

Volt 12

FULL-LOAD DELIVERY WITH BOOST PRESSURE

: 1250 Rated speed rpm

Aneroid pressure

750

Del. quantity cm3/1000 strokes : 50.5

Tolerance

cm3/1000 strokes : 0.5 Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. 3.0

Shutoff solenoid

Volt 12

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

Check tolerance

cm3/1000s. 3.0 :

HOUSING-FIXED IDLE SPRING RESIDUAL QUANTITY SETTING

Rated speed rpm 550

Del. quantity

cm3/1000 strckes : 7.5

Tolerance

cm3/1000 strokes :

Shutoff solenoid

12 Volt

FULL-LOAD SPEED REGULATION

2600 Rated speed rpm

Pressure hPa :

| Del. quantity cm3/1000 strokes | : 11.0 | + Aneroid pressure | |
|--------------------------------|-------------------|---------------------------------|--------------------|
| Talamana | | ∔ hPa | : 750 |
| Tolerance | | + Tolerance mm | : 0.3 |
| cm3/1000 strokes | | + Check | |
| Shutoff solenoid | | + tolerance mm | : 0.8 |
| Volt | : 12 | + Shutoff solenoid | 40 |
| | | † Volt | : 12 |
| SET GRADUATED STAF | RTING DELIVERY | Rated speed rpm | : 750 |
| CONTROL LEVER, ID | | Aneroid pressure | . 750 |
| CONTINUE EEVENY 101 | 22 3.0. | + hPa | : 750 |
| Rated speed rpm | : 100 | 1 | |
| Del. quantity | | → SV travel mm | : 1.8 |
| cm3/1000 strokes | : 40.0 | + Tolerance mm | : 0.3 |
| Tolerance | | + Check | |
| cm3/1000 strokes | : 3.0 | + tolerance mm | : 0.8 |
| Shutoff solenoid | •• | + Shutoff solenoid | |
| Volt | : 12 | † Volt | : 12 |
| | | CLIPPLY DUMP PRESS | LIDE CHADACTEDICTI |
| LOAD-DEPENDENT STA | ART OF NELTWERY | + SUPPLY PUMP PRESS | URE CHARACTERISTI |
| SETTING | ART OF DELIVERT | T Rated speed rpm | . 2100 |
| OE I I ING | | + Aneroid pressure | . 2100 |
| DELIVERY DIFFERENCE | CF | + hPa | : 750 |
| | | Supply pomp | |
| Rated speed rpm | : 1250 | + pressure bar | : 7.7 |
| Del. quantity | | + Tolerance hPa | : 0.3 |
| cm3/1000 strokes | : -5.5 | + Shutoff solenoid | |
| Tolerance | | + volt | : 12 |
| cm3/1000 strokes | : 1.0 | + | |
| Shutoff solenoid | | + Rated speed rpm | : 750 |
| Volt | : 12 | + Aneroid pressure | 350 |
| DDE0011DE | 25 | + hPa | : 750 |
| PRESSURE DIFFERENCE | LE | + Supply pomp + pressure bar | : 4.6 |
| Rated speed rpm | • 1250 | + Tolerance hPa | |
| Del. quantity | . 1230 | + Shutoff solenoid | . 0.5 |
| cm3/1000 strokes | : -0.2 | + Volt | : 12 |
| Tolerance | . 0.2 | 1 | • 12 |
| cm3/1000 strokes | : 0.1 | ↓ OVERFLOW QUANTITY | |
| Shutoff solenoid | | + | |
| Volt | : 12 | + Rated speed rpm | : 1250 |
| | | + Aneroid pressure | |
| TIMING-DEVICE TRAV | /EL DIFFERENCE | + hPa | : 750 |
| | | + Overflow quantity | |
| Rated speed rpm | : 1250 | + <u>c</u> cm/10s | : 77.7 |
| Del. quantity | 2.0 | + Tolerance | 22.2 |
| cm3/1000 strokes | : -2.0 | + ccm/10s | : 22.2 |
| Tolerance cm3/1000 strokes | : 0.1 | † Check tolerance | |
| Shutoff solenoid | | + ccm/10s | : 34.7 |
| Volt | : 12 | Shutoff solenoid | . 57.1 |
| • • | · · | + Volt | : 12 |
| | | + | · |
| INJECTION-PUMP TES | ST SPECIFICATIONS | + Rated speed rpm | : 2100 |
| | | + Aneroid pressure | |
| TIMING DEVICE CHAR | RACTERISTIC | + hPa | : 750 |
| | | + Overflow quantity | |
| Rated speed rpm | : 2100 | + ccm/10s | : 97.2 |

| Tolerance | | | + | Del. quantity | | | |
|-------------------|-------|-------------------|---|---------------------|------|----------------|--|
| ccm/10s | : | 41.6 | † | cm3/1000 strokes | : | 40.2 | |
| | | | † | Tolerance | | | |
| Check tolerance | | F.F. F | + | cm3/1000 strokes | : | 3.0 | |
| ccm/10s | : | 55.5 | † | Check tolerance | | | |
| Shutoff solenoid | | 40 | † | cm3/1000s. | : | 5.5 | |
| Volt | : | 12 | + | Shutoff solenoid | | | |
| | | | † | Volt | : | 12 | |
| DELIVERY AND BREA | IKAW. | AY CHARACTERISTIC | + | | | | |
| | | 0.400 | † | Rated speed rpm | : | 1250 | |
| Rated speed rpm | : | 2600 | † | Aneroid pressure | | | |
| Aneroid pressure | | | + | hPa | : | 750 | |
| hPa | : | 750 | + | Del. quantity | | | |
| Del. quantity | | | + | cm3/1000 strokes | : | 50.5 | |
| cm3/1000 strokes | : | 11.0 | + | Tolerance | | | |
| Tolerance | | | + | cm3/1000 strokes | : | 0.5 | |
| | : | 2.0 | + | Check tolerance | | | |
| Check tolerance | | | + | cm3/1000S. | : | 2.2 | |
| cm3/1000s. | : | 4.0 | + | Shutoff solenoid | | | |
| Shutoff solenoid | | 4- | + | Volt | : | 12 | |
| Volt | : | 12 | + | _ | | | |
| | | | + | Rated speed rpm | : | 700 | |
| Rated speed rpm | : | 2400 | + | Aneroid pressure | | | |
| Aneroid pressure | | | + | hPa | : | 180 | |
| hPa | : | 750 | + | Tolerance | | | |
| Del. quantity | | | + | cm3/1000 strokes | : | 0.5 | |
| cm3/1000 strokes | : | 37.5 | + | Check tolerance | | | |
| Tolerance | | | + | cm3/1000S. | : | 0.5 | |
| cm3/1000 strokes | : | 5.0 | + | Check tolerance | | | |
| Check tolerance | | | + | cm3/1000S. | : | 0.5 | |
| cm3/1000s. | : | 6.0 | + | Shutoff solenoid | | | |
| Shutoff solenoid | | | + | Volt | : | 12 | |
| Volt | : | 12 | + | | | | |
| | | | + | Rated speed rpm | : | 700 | |
| | : | 2750 | + | Aneroid pressure | | | |
| Aneroid pressure | | | + | hPa | : | 300 | |
| hPa | : | 750 | + | Del. quantity | | | |
| Del. quantity | | | † | cm3/1000 strokes | : | 6.0 | |
| cm3/1000 strokes | : | 1.5 | + | Check tolerance | | | |
| Tolerance | | | + | cm3/1000s. | : | 1.0 | |
| cm3/1000 strokes | : | 1.5 | † | Shutoff solenoid | | | |
| Check tolerance | | A ** | + | Volt | : | 12 | |
| cm3/1000s. | : | 1.5 | † | | | | |
| Shutoff solenoid | | 4.5 | + | | | | |
| Volt | : | 12 | + | | | ~ | |
| • | | 2400 | + | ELECTR. SHUTOFF | | | |
| Rated speed rpm | : | 2100 | + | CONTROL LEVER, ID | LE S | 10P | |
| Aneroid pressure | | 755 | + | | | | |
| hPa | : | 750 | + | Rated speed rpm | : | 450 | |
| Del. quantity | | 47.0 | + | Del. quantity | | | |
| cm3/1000 strokes | : | 43.0 | + | cm3/1000 strokes | : | 1.5 | |
| Tolerance | | 4.0 | † | Tolerance | | 4 - | |
| cm3/1000 strokes | : | 1.0 | † | cm3/1000 strokes | : | 1.5 | |
| Check tolerance | | 2.2 | † | Check tolerance | | , - | |
| cm3/1000s. | : | 2.2 | † | cm3/1000s. | : | 1.5 | |
| Shutoff solenoid | | 10 | † | Spread | | r 0 | |
| Volt | : | 12 | + | cm3/1000 strokes | : | 5.0 | |
| Dakad | | / CO | † | FIRE 1 040 0700 000 | LITE | | |
| Rated speed rpm | : | 450 | † | FULL-LOAD STOP CO | NIRO | L LEVER | |
| | | | + | | | | |
| | | | | | | | |

| Rated speed rpm | : | 450 | + Supply pomp |
|----------------------------------|------|-------------|--|
| Del. quantity | | | pressure bar : -1.2 |
| cm3/1000 strokes | : | 1.5 | + Tolerance hPa : 0.2 |
| Tolerance | | | + Shutoff solenoid |
| cm3/1000 strokes | : | 1.5 | + Volt : 12 |
| Spread | | | + |
| cm3/1000 strokes | : | 5 .0 | + TIMING-DEVICE TRAVEL DIFFERENCE |
| Check tolerance | | | + |
| cm3/1000s. | : | 1.5 | + Rated speed rpm : 1250 |
| Spread | | | + Tolerance mm : 0.2 |
| cm3/1000 strokes | : | 5.0 | + Check |
| | | | † tolerance mm : 0.6 |
| | | | + Shutoff solenoid |
| | | | + Volt : 12 |
| | | | + |
| | | | |
| | | | EXHAUST-GAS RECIRCULATION |
| CHECKING LOAD-DEF | | EN I | 1000 |
| START OF DELIVERY | | | Rated speed rpm : 1000 |
| NEI 711FRU N | | | + Aneroid pressure |
| DELIVERY DIFFEREN | ICE | | + hPa : 750 |
| 5 | | 4252 | + Del. quantity |
| Rated speed rpm | : | 1250 | + cm3/1000 strokes : 35.0 |
| Del. quantity | | 0.0 | + Tolerance |
| cm3/1000 strokes | : | -9.0 | + cm3/1000 strokes : 1.0 |
| Tolerance | | | + Check tolerance |
| cm3/1000 strokes | : | 2.0 | + cm3/1000s. : 3.0 |
| Check tolerance | | | † Shutoff solenoid |
| cm3/1000s. | : | 4.0 | + Volt : 12 |
| Shutoff solenoid | | 40 | † |
| Volt | : | 12 | + START TRANSITION |
| TIMING NEVICE TO | VCI | OT EEEDENCE | Dated aread are . 700 |
| TIMING-DEVICE TRA | IVEL | DIFFERENCE | Rated speed rpm : 380 |
| Detail aread non | | 1250 | + Del. quantity + cm3/1000 strokes : 41.0 |
| Rated speed rpm | : | 1230 | |
| Del. quantity cm3/1000 strokes | | -2.0 | + Tolerance + cm3/1000 strokes : 10.0 |
| | • | -2.0 | + Shutoff solenoid |
| Tolerance cm3/1000 strokes | | 0.1 | |
| | · | U. 1 | + Volt : 12 |
| Check tolerance | | 0.4 | † |
| cm3/1000s. | : | 0.1 | + Rated speed rpm : 180 |
| Shutoff solenoid | | 12 | + Rated speed rpm : 180 + Del. quantity |
| Volt | • | 16 | + cm3/1000 strokes : 45.0 |
| DELIVERY DIFFEREN | CE | | Tolerance 45.0 |
| PELIVERI DIFFEREN | -C | | + cm3/1000 strokes : 10.0 |
| Poted speed spe | : | 1250 | + Shutoff solenoid |
| Rated speed rpm Del. quantity | • | 1200 | + Volt : 12 |
| cm3/1000 strokes | | 1.5 | I voit . 12 |
| Tolerance | • | 1 | I |
| cm3/1000 strokes | | 1.5 | ASSEMBLY AND ADJUSTMENT DIMENSIONS |
| Check tolerance | • | 1.0 | T POSCHOCI MIN MANOOLUCIAL MINERATORA |
| cm3/1000s. | • | 1.5 | Dimension K mm : 3,7 |
| Shutoff solenoid | • | | + Tolerance mm : +-0,1 |
| Volt | • | 12 | Dimension KF mm : 6,0 |
| | • | | Tolerance mm : +-0,2 |
| PRESSURE DIFFEREN | CE | | Dimension MS mm : 1,2 |
| · WEDDAVE DITLEMEN | ~_ | | Tolerance mm : +-0,2 |
| Rated speed rpm | : | 1250 | 1000.0000 |
| mateu speed i pili | • | , 200 | (|

CONTROL LEVER POSITION SET

Control lever position YA mm : 37,6..41,6

Control lever

: 49,9..53,3 position YB mm

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.02.96 : ISO 4113 Test oil

Part no. : 0 460 494 404 Pump designation : VE4/9F2150R637-1

Customer-spec. information

Customer : NISSAN-MISA

Motor : GX-3

Power KW 53.0

TEST BENCH REQUIREMENTS

Calibrating-oil

return

temperature °C 45 Tolerance °C

Overflow

restriction mm : 0.55

0.35 Inlet press. bar : 0.05 Tolerance bar

Test nozzle holde

: 1 688 901 022 assembly

Opening pressure

130 bar 3 Tolerance bar

: 1 680 750 073 Test lines

6.00 Outside diameter :

2.00 x inside diameter: 450 x length mm

REMARKS

INJECTION PUMP SETTING VALUES

TIMING DEVICE TRAVEL

Rated speed rpm : 1200

Setting mm 3.2 Tolerance mm 0.2 Shutoff solenoid 12

Volt

SUPPLY PUMP PRESSURE

Rated speed rpm : 1200

5.9 Setting hPa : Tolerance hPa 0.3 Shutoff solenoid

12 Volt

FULL-LOAD DELIV. WITHOUT BOOST PRESSURE

2.5

12

Rated speed rpm : 2150

Del. quantity

cm3/1000 strokes : 44.5 Tolerance

cm3/1000 strokes : 0.5

Spread cm3/1000 strokes :

Shutoff solenoid Volt 12

IDLE SETTING

Rated speed rpm 375

Del. quantity

cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes : 2.0 Shutoff solenoid

Volt

Spread

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s.3.0

FULL-LOAD SPEED REGULATION

2500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes : 3.0

Shutoff solenoid

12 Volt

STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity

cm3/1000 strokes : 60.0

| Tolerance cm3/1000 strokes | : 15.0 | + Rated speed rpm : 600 + Overflow quantity | |
|-----------------------------------|---------------------|---|------------|
| Shutoff solenoid Volt | : 12 | + ccm/10s : 63.8 + Tolerance | |
| • | | ccm/10s : 22.2 | |
| | | + Check tolerance + ccm/10s : 22.2 - + Shutoff solenoid | |
| INJECTION-PUMP TE | EST SPECIFICATIONS | Volt : 12 | |
| TIMING DEVICE CHA | ARACTERISTIC | DELIVERY AND BREAKAWAY CHARACTERIST | [C |
| Rated speed rpm | : 2150 | Rated speed rpm : 2500 Del. quantity | |
| SV travel mm | : 9.2 | + cm3/1000 strokes : 15.0 | |
| Tolerance mm Check | : 0.4 | Tolerance : 3.0 | |
| tolerance mm Shutoff solenoid | : 0.7 | + Check tolerance + cm3/1000s. : 4.5 | |
| Volt | : 12 | + Shutoff solenoid + Volt : 12 | |
| Rated speed rpm | : 900 | + Rated speed rpm : 2350 | |
| SV travel mm | : 1.2 | + Del. quantity | |
| Tolerance mm Check | : 0.4 | cm3/1000 strokes : 33.3 Tolerance | |
| tolerance mm Shutoff solenoid | : 0.7 | cm3/1000 strokes : 4.0 Check tolerance | |
| Volt | : 12 | + cm3/1000s. : 5.5 | |
| SUPPLY PUMP PRESS | SURE CHARACTERISTIC | + Shutoff solenoid + Volt : 12 | |
| Rated speed rpm Supply pomp | : 2150 | Rated speed rpm : 2700 Del. quantity | |
| pressure bar | : 8.7 | + cm3/1000 strokes : 2.5 | |
| Tolerance hPa Shutoff solenoid | : 0.3 | Tolerance cm3/1000 strokes : 2.5 | |
| Volt | : 12 | + Check tolerance + cm3/1000s. : 2.5 | |
| Rated speed rpm Supply pomp | : 900 | Shutoff solenoid Volt : 12 | |
| pressure bar | : 5.0 | + | |
| Tolerance hPa Shutoff solenoid | : 0.3 | + Rated speed rpm : 900 + Del. quantity | |
| Volt | : 12 | cm3/1000 strokes : 42.2 Tolerance | |
| OVERFLOW QUANTITY | | cm3/1000 strokes : 1.5 Check tolerance | |
| Rated speed rpm | | cm3/1000s. : 2.5 Shutoff solenoid | |
| Overflow quantity ccm/10s | : 97.2 | Volt : 12 | |
| Tolerance ccm/10s | : 41.6 | + Rated speed rpm : 1200 + Del. quantity | |
| Check tolerance | . /1 4 | + cm3/1000 strokes : 43.2 | |
| ccm/10s Shutoff solenoid | : 41.6 | Tolerance : 1.5 | |
| Volt | : 12 | + Check tolerance + cm3/1000s. : 2.5 | |

| Shutoff solenoid | | + | Spread | | |
|--------------------------------|-------------|--------------|-------------------------------|--------|------------|
| Volt | : | 12 | cm3/1000 strokes | : | 5.0 |
| | | + | | | |
| Rated speed rpm | : 1800 | + | IDLE DELIVERY | | |
| Del. quantity | | + | | | |
| cm3/1000 strokes | : 44 | .3 + | Rated speed rpm | : | 800 |
| Tolerance | | + | Del. quantity | | |
| cm3/1000 strokes | : 1 | .5 | cm3/1000 strokes | : | 2.5 |
| Check tolerance | | + | Tolerance | | |
| cm3/1000s. | | .5 | cm3/1000 strokes | : | 2.5 |
| Shutoff solenoid | | + | Check tolerance | | |
| Volt | : | 12 + | cm3/1000s. | : | 2.5 |
| | | + | Shutoff solenoid | | |
| Rated speed rpm | : 600 | + | Volt | : | 12 |
| Del. quantity | | + | | | |
| cm3/1000 strokes | : 41 | .0 + | Rated speed rpm | : | 500 |
| Tolerance | | + | Del. quantity | | |
| cm3/1000 strokes | : 1 | .5 + | cm3/1000 strokes | : | 1.5 |
| Check tolerance | | + | Tolerance | | |
| cm3/1000s. | : 2 | .5 | cm3/1000 strokes | : | 1.5 |
| Shutoff solenoid | | + | Check tolerance | | |
| Volt | : | 12 + | cm3/1000s. | : | 1.5 |
| | 2452 | + | Shutoff solenoid | | |
| Rated speed rpm | : 2150 | † | Volt | : | 12 |
| Del. quantity | | _ | | | |
| cm3/1000 strokes | : 44 | .5 | | | |
| Tolerance | | _ | | | |
| cm3/1000 strokes | : 0 | .5 | | | |
| Check tolerance | . 1 | _ | | | |
| cm3/1000s. Shutoff solenoid | : (| .3 | CTART TRANSTITAN | | |
| Volt | | 12 🚶 | START TRANSITION | | |
| VOLT | • | 12 | Rated speed rpm | : | 400 |
| | | I | Del. quantity | • | 400 |
| | | I | cm3/1000 strokes | | 45.0 |
| ELECTR. SHUTOFF | | \mathbf{I} | Tolerance | • | 45.0 |
| CONTROL LEVER, II | NE STOP | I | cm3/1000 strokes | : | 20.0 |
| CONTROL LEVERY II | JEE 5101 | 1 | Shutoff solenoid | • | 20.0 |
| Rated speed rpm | : 375 | <u> </u> | Volt | : | 12 |
| Del. quantity | • 0.5 | 1 | | • | |
| cm3/1000 strokes | : 1. | .5 | | | |
| Tolerance | • | + | Rated speed rpm | : | 270 |
| cm3/1000 strokes | : 1. | .5 | Del. quantity | - | |
| Check tolerance | | 1 | cm3/1000 strokes | : | 70.0 |
| cm3/1000s. | : 1. | .5 | Tolerance | | |
| Spread | | + | cm3/1000 strokes | : | 20.0 |
| cm3/1000 strokes | : 5. | .0 🗼 | Shutoff solenoid | | |
| | | + | Volt | : | 12 |
| FULL-LOAD STOP CO | INTROL LEVE | ER + | | | |
| | | + | | | |
| Rated speed rpm | : 375 | + | ASSEMBLY AND ADJU | STMENT | DIMENSIONS |
| Del. quantity | ā | | | | |
| cm3/1000 strokes | : 1. | .5 | Dimension K mm | : 3,3 | |
| Tolerance | | + | Tolerance mm | | |
| cm3/1000 strokes | : 1. | .> + | Dimension KF mm | | |
| Spread | | 1 | Tolerance mm | : +-0 | |
| cm3/1000 strokes | : 5. | .0 + | Dimension MS mm | : 1,2 | |
| Check tolerance | • | I I | Talancaca | | |
| | | + | Tolerance mm | : +-0 | |
| cm3/1000s. | : 1. | 5 | Tolerance mm TLA travel mm | : 6,5 | |
| | | 5 | | | |

CONTROL LEVER POSITION SET

Control lever position YA mm : 35,1..39,1

Control lever

: 56,9..68,1 position YB mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.08.95 Test oil : ISO 4113

Combination No. : 0 400 075 922

Injection pump

Pump designation : PES5M55C32ORS168 EP type number : 0 410 055 978

Governor

Governer design. : RSF350/2000M56-15 Governer no. : 0 420 021 272

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : 0M602-2.9l

Power KW : 69.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : +- 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : + 0.20

Check

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 38.5

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : +- 1.5

Spreed

cm3/1000 strokes : 2.5

H24

Check tolerance 3.0 cm3/1000s. Rated speed rpm : 350 Rack travel in mm: 5.30 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 6.5 cm3/1000 strokes : +-0.5 Spreed cm3/1000 strokes : 1.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR IDLE STAGE Rack travel in mm: 6.25 Tolerance mm : \leftarrow 0.25 FULL LOAD DELIVERY AT FULL LOAD STOP 1000 Rated speed rpm : Ref. pressure ALDA / ADA hPa : 1100 Del. quantity cm3/1000 strokes : 38.5 cm3/1000 strokes : +- 0.5Check tolerance cm3/1000s. : + 1.5 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 3.0 RATED SPEED control lever position degree : 50.0 Rated speed rpm : 2200 rack travel mm : 8.90 : +- 0.25 Tolerance mm Rated speed rpm : 2550 : 0.50 rack travel mm : +- 0.50 Tolerance mm SET IDLE CONTROL LEVER POSITION Rated speed rpm : 1000

LOW IDLE control lever position degree : 14.0 tolerance degree : +- 2.0 Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm 5.30 SET IDLE AUXILIARY SPRING Rated speed rpm : rack travel mm : 4.10 : +- 0.10 Tolerance mm Load pick-up 250 Rated speed rpm : rack travel mm 10.50 Rated speed rpm : 1000 CRT mm max. : 1.45 rack travel mm : Rated speed rpm : 5.30 350 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15 Tolerance mm : + 0.05 Rated speed rpm : 1800 rack travel mm : 12.00 : +- 0.10 Tolerance mm Rated speed rpm : 2000 rack travel mm : 11.80 Tolerance mm : + 0.10 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1000 Ref. pressure 940 -0.10 ALDA / ADA hPa : rack travel mm : Tolerance mm : +- 0.10

CRT mm max. : 1.45

| MEASUREMENT | | + Check tolerance + cm3/1000s. : 3.0 |
|-----------------------------------|------------------|--|
| Rated speed rpm Ref. pressure | : 1000 | |
| ALDA / ADA hPa | : 900 | STARTING FUEL DELIVERY |
| rack travel mm | : -0.40 | + |
| Tolerance mm | : +- 0.10 | + Rated speed rpm : 100 |
| - 4 | | rack travel mm : 21.60 |
| Ref. pressure | . 750 | + Tolerance mm : + 1.50 |
| ALDA / ADA hPa rack travel mm | | + Del. quantity + cm3/1000 strokes : 59.0 |
| Tolerance mm | : +- 0.20 | + cm3/1000 strokes : +- 4.0 |
| , occ. a. , oc | | Check tolerance |
| | | + Check tolerance + cm3/1000s. : +- 5.0 |
| | | + Spreed |
| FUEL DELIVERY CHA | ARACTERISTICS | + cm3/1000 strokes : 6.0 |
| Dof procesure | | + Check tolerance + cm3/1000s. : 6.0 |
| Ref. pressure ALDA / ADA hPa | : 1100 | $\frac{1}{1}$ cm3/1000s. : 6.0 |
| Rated speed rpm | | |
| Del. quantity | | + |
| cm3/1000 strokes | | |
| cm3/1000 strokes | | + LOW IDLE |
| Check tolerance | : +- 1.8 | Potent aread area 750 |
| cm3/1000s. Spreed | : +- 1.8 | + Rated speed rpm : 350 + Del. quantity |
| cm3/1000 strokes | : 2.5 | + cm3/1000 strokes : 7.8 |
| Check tolerance | | + Check tolerance > |
| cm3/1000s. | | + cm3/1000s. : +- 2.3 |
| | | + Spreed |
| Ref. pressure | 4400 | + Check tolerance |
| ALDA / ADA hPa | : 1100 : 2000 | + cm3/1000s. : 1.5 |
| Rated speed rpm Spreed | : 2000 | I |
| Del. quantity | | |
| cm3/1000 strokes | | + |
| cm3/1000 strokes | : + 1.0 | + |
| Check tolerance | | + |
| cm3/1000s. | : +- 2.0 | t control lever |
| Spreed cm3/1000 strokes | : 2.5 | position degree : > 47.00 |
| Check tolerance | . 2.3 | 1 |
| cm3/1000s. | : 3.0 | + control lever |
| | | position degree : < 44.50 |
| | | † |
| HIGH IDLE | | SETTING PNEUMATIC FAST IDLE (PLA) |
| | | (PLA) POSITION |
| Ref. pressure | 4400 | + |
| ALDA / ADA hPa | : 1100 | † |
| Rated speed rpm rack travel mm | : 2200 : 8.90 | <pre>control lever position degree : 14.0</pre> |
| Tolerance mm | : +- 0.25 | tolerance degree : +- 2.0 |
| Del. quantity | | + |
| cm3/1000 strokes | | + Rated speed rpm : 400 |
| cm3/1000 strokes | : +- 2.0 | The state of the s |
| Check tolerance | 7.0 | Rack travel in mm: 6.10 |
| cm3/1000s. Spreed | : +- 3.0 | Tolerance mm : +- 0.80 Del. quantity |
| cm3/1000 strokes | : 2.5 | cm3/1000 strokes : 11.0 |
| 5.1157 1.500 DELONES | | , |

cm3/1000 strokes : - 3.5

Check tolerance cm3/1000s. : +- 4.5 Vacuum hPa : 400.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 15.09.95 : ISO 4113

Combination No. : 0 402 698 804

Injection pump

Pump designation : PE8P12OA72OLS7205 EP type number : 0 412 628 895

Governor

Governer design. : RE30

Governer no.

: 0 421 890 007

Cust. part No.

: 1328039

Customer-spec. information : SCANIA Customer

Motor

: DSC1409, DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C

40

: 1 417 413 025 Overflow valve

Inlet press. bar : 2.5

Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar

Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

5.05 Prestroke mm Tolerance mm : + - 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-2-7-3-4 Firing order

: - 5- 6- 8

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

: + - 0.75tolerance °NW

: 1 Barrel no.

Vibration

damper

(RoBo diaphragm) : 3.2

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) Uact V 3.100 13.00 CRT mm Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1.700 Uact V CRT mm 6.15 : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Setting point (M pump) Uact V 3.100 12.50 CRT mm Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (M pump) Uact V 1.700 CRT mm 5.50 Tolerance mm : +/- 0.25 Check : +/- 0.30tolerance mm Stub position : Value with Uact V deenergised adjusting magnet and control rod in stop position. 0.75 CRT mm : +/- 0.25 Tolerance mm Check : +/- 0.35tolerance mm

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: 60 Amplitude V 1.4 Tolerance V : +/~ 0.6 Check tolerance V : ± 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm 700 Uact V 3.000 Del. quantity cm3/1000 strokes : 248.0 cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s.4.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 FUEL DELIVERY CHARACTERISTICS Rated speed rpm 950 Uact V 3.000 Del. quantity cm3/1000 strokes : 224.0 cm3/1000 strokes : +- 4.0Check tolerance cm3/1000s.6.0 TEST POINT L1 Rated speed rpm 250 Uact V 1.410 : +- 0.060 Tolerance Volt Check tolerance Volt : +- 0.060 Del. quantity cm3/1000 strokes : 16.0

cm3/1000 strokes : +-

cm3/1000 strokes :

Spreed

3.0

| Check tolerance cm3/1000s. | : | 8.0 | |
|----------------------------|---|-----|--|
| | | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.09.95 Test oil : ISO 4113

Combination No. : 0 402 698 806

Injection pump

Pump designation : PE8P12OA72OLS7331 EP type number : 0 412 628 896

Governor

Governer design. : RE30

Governer no. : 0 421 890 022

Cust. part No. : 1362097

Customer-spec. information Customer : SCANIA

Motor : DSC1409, DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-2-7-3-4

: - 5- 6- 8

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.50

Tolerance Check

tolerance "NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

Vibration

damper

(RoBo diaphragm) : 3.2

| | | + | |
|--|--|--|-----------------|
| (B) POSITIONER Warm-up time: 3 n=600 min-1, Ua | minutes at | ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) | |
| TESTING & SETTI | NG RACK TRAVEL SENSOR | Test with control rod in stop position | |
| Engine speed mi | n-1: 0 | Engine speed min-1: 60 Amplitude V : 1 Tolerance V : +/- 0 | .4 |
| Setting point (P, R and H pum | (qc | + Tolerance V : +/- 0 + Check + tolerance V : +/- 1 | |
| Uact V CRT mm Tolerance mm | | + Engine speed min-1: 600 + Difference | |
| Tolerance mm Check tolerance mm | | + Amplitude to + Amplitude V : max.1 | .4 |
| Check value (P, R and H pum | p) | (C) INJECTION PUMP WITH PO | |
| | 4 700 | + TEST POINT V1 | |
| Uact V CRT mm Tolerance mm | : 1.700 : 6.15 : +/- 0.25 | | 0 000 |
| Check tolerance mm | : +/- 0.30 | + Del. quantity + cm3/1000 strokes : 248 + cm3/1000 strokes : +- | 1.0 |
| Setting point (M pump) | | + Check tolerance + cm3/1000s. : +- 4 + Spreed | 4.0 |
| Jact V CRT mm | : 3.100 : 12.50 | + cm3/1000 strokes : { + Check tolerance + cm3/1000s. : 12 | 8.0 2.0 |
| Tolerance mm Check | : +/- 0.05 | + FUEL DELIVERY CHARACTERIST | |
| tolerance mm Check value | : +/- 0.10 | | 0 000 |
| (M pump) Jact V | : 1.700 | + Del. quantity + cm3/1000 strokes : 224 + cm3/1000 strokes : +- 4 | |
| CRT mm Tolerance mm Check | : 5.50 : +/- 0.25 | Check tolerance cm3/1000s. : +- 6 | 6.0 |
| tolerance mm | : +/- 0.30 | TEST POINT L1 | _ |
| Stop position Jact V | : Value with | Rated speed rpm : 250 + Uact V : 1.4 + Tolerance Volt : + 0.0 |) 410)60 |
| | nergised adjusting magnet and control rod in | Check tolerance : + 0.0 | |
| CRT mm Tolera; e mm | stop position. : 0.75 : +/- 0.25 | <pre></pre> | 5.0 3.0 |
| Check tolerance mm | : +/- 0.35 | Spreed | 4.0 |

SPEED SENSOR and R pumps not pumps) th control rod position speed min-1: 60 de V : 1.4 : +/- 0.6 e V e V : +/- 1.20 speed min-1: 600 nce de to de V : max.1.4 ECTION PUMP WITH POSITIONER NT V1 peed rpm : 700 3.000 ntity strokes: 248.0 strokes : \leftarrow 1.0 lerance : +- 4.0 ß. strokes : 8.0 lerance 12.0 s. IVERY CHARACTERISTICS 950 eed rpm : : 3.000 ntity strokes: 224.0 strokes : +- 4.0 lerance : +- 6.0 s. NT L1 : 250 : 1.410 eed rpm : +- 0.060 e Volt lerance : + 0.060ntity strokes: 16.0 strokes : +- 3.0

| Check | tolerance | | |
|--------|-----------|---|-----|
| cm3/10 | 000s. | : | 8.0 |

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 30.10.95 Edition : ISO 4113 Test oil

Combination No. : 0 401 846 859

Injection pump

Pump designation : PE6P110A720RS3289

EP type number : 0 411 826 776

Governor

Governer design. : RQV200...1100PA555

: -5

Governer no. : 0 421 813 470

Cust. part No. : 1333234

Customer-spec. information Customer : SCANIA

: DS11 63A Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C 40

Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 5.05 : + 0.05 Prestroke mm

Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 : +- 1.50

Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

0.30 Tolerance :

Check

tolerance °NW : 0.50

Barrel no.

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35 Tolerance mm : +- 0.05

J06

| | + Tolerance mm : +- 0.50 |
|--|---|
| Del. quantity | + |
| cm3/1000 strokes : 172.0 | GUIDE SLEEVE POSITION |
| cm3/1000 strokes : +- 1.0 | Rated speed rpm : 1278 |
| Check tolerance cm3/1000s. : +- 4.0 | + Rack travel in mm : 9.45 |
| cm3/10003. : +- 4.0 | + Tolerance mm : +- 1.30 |
| Spreed | + |
| cm3/1000 strokes : 8.0 | † |
| Check tolerance | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000s. : 12.0 | Rated speed rpm : 700 |
| | + Aneroid pressure |
| Rated speed rpm : 325 | + hPa : - |
| | + Del. quantity + cm3/1000 strokes : 172.0 |
| Rack travel in mm : 6.60 | + cm3/1000 strokes : +- 1.0 |
| Tolerance mm : +- 0.10 | † Check tolerance |
| Del. quantity | + cm3/1000s. : +- 4.0 |
| cm3/1000 strokes : 22.0 cm3/1000 strokes : +- 3.0 | + Spreed + cm3/1000 strokes : 8.0 |
| Check tolerance | Check tolerance |
| cm3/1000s. : + 6.0 | + cm3/1000s. : 12.0 |
| Spreed | + |
| cm3/1000 strokes : 4.0 Check tolerance | † |
| cm3/1000s. : 8.0 | T CONTROL LEVER |
| | + |
| (5) | + control lever |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | <pre>position degree : 60.0 tolerance degree : +- 4.0</pre> |
| MILL GOAFWAOW | + toterance degree 4.0 |
| | control lever |
| GUIDE SLEEVE TRAVEL | + position degree : 115.0 |
| Rated speed rpm : 225 | tolerance degree : +- 4.0 |
| guide sleeve | A RATED SPEED |
| travel mm : 0.65 | + |
| Tolerance mm : +- 0.20 | rack travel mm : 11.30 |
| Rated speed rpm : 1155 | + Rated speed rpm : 1145 + Tolerance 1/min : +- 5 |
| guide sleeve | + rocerance minimum. |
| travel mm : 8.50 | rack travel mm : 4.00 |
| Tolerance mm : + 0.15 | Rated speed rpm : 1250 |
| Rated speed rpm : 719 | + Tolerance 1/min : +- 15 |
| guide sleeve | rack travel mm : 0.50 |
| travel mm : 5.54 | Tolerance mm : + 0.50 |
| Tolerance mm : + 0.25 | Rated speed rpm : 1400 |
| Rated speed rpm : 430 | Ī |
| guide sleeve | |
| travel mm : 3.90 | + LOW IDLE |
| Tolerance mm : +- 0.25 | † |
| Rated speed rpm : 1440 | t control lever |
| NATES SECTION 1 1770 | + CONTROL (EVEL) |
| | position degree : 63.0 |
| guide sleeve travel mm : 11.50 | |

| | | + | Rated speed rpm | : 1100 |
|--|---------------------|------------------------|--|-------------------------------|
| control lever position degree tolerance degree | : 8.0 : +- 4.0 | <u> </u> | Del. quantity cm3/1000 strokes cm3/1000 strokes | : 164.0 : + 4.0 |
| Testing: | | Ì | Check tolerance cm3/1000S. | : +- 6.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 6.60 | 1 | Aneroid pressure hPa Rated speed rpm Del. quantity | : - : 500 |
| Rated speed rpm | : 225 | + | Del. quantity cm3/1000 strokes cm3/1000 strokes | : 114.0 : +- 2.0 |
| CRT mm min. | : > 6.50 | <u> </u> | Check tolerance cm3/1000s. | : +- 4.0 |
| Rated speed rpm | : 310 | ‡ | | |
| TORQUE CONTROL | · | + | BREAKAWAY | |
| Rated speed rpm rack travel mm Tolerance mm | : 12.35 | + + + + + | Rack travel in mm Rated speed rpm Tolerance 1/min | : 1145 |
| ANEROID/ALTITUDE COMPENSATOR TEST | | + | STARTING FUEL DEL | IVERY |
| SETTING | | T + + | Rated speed rpm rack travel mm Tolerance mm | : 100 : 20.50 : +- 0.50 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 12.35 | + + + + | Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. | : 265.0 : +- 20.0 |
| Pressure hPa Rated speed rpm | : - : 500 | + + | | |
| rack travel mm Tolerance mm | : 10.00 : + 0.20 | ‡ | LOW IDLE | |
| Rated speed rpm | : 500 | ‡ | Rated speed rpm Del. quantity cm3/1000 strokes | : 325 |
| Pressure hPa | : 140 : 10.80 | Ŧ | cm3/1000 strokes Check tolerance | |
| rack travel mm Tolerance mm | : ← 0.15 | Ŧ | cm3/1000s. | : +- 6.0 |
| Pressure hPa | : 200 : 11.75 | Ŧ | Spreed cm3/1000 strokes Check tolerance | : 4.0 |
| rack travel mm Tolerance mm | : +- 0.05 | + | cm3/1000s. | : 8.0 |
| FUEL DELIVERY CHAI | RACTERISTICS | + | | |
| Aneroid pressure | : - | ++ | | |
| J08 | | · | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.01.96 : ISO 4113

Combination No. : 0 400 075 929

Injection pump

Pump designation : PES5M55C32ORS177 EP type number : 0 410 055 974

Governor

Governer design. : RSF340/2300M64-18 Governer no. : 0 420 021 159

Cust. part No. :

Customer-spec. information Customer : MB-PKW

: OM6O2A-USA Motor

Power KW

: 92.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

: 148.5 bar Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : +- 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 17.00 Tolerance : +- 0.20

Check

: +- 0.30 tolerance °NW

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.75 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 52.2

cm3/1000 strokes : +-0.5

Check tolerance cm3/1000s.

: +- 1.5

| Spreed cm3/1000 strokes : 2.5 | Rated speed rpm : 1000 |
|---|---|
| Check tolerance cm3/1000s. : 3.0 | CRT mm max. : 1.75 |
| Rated speed rpm : 315 | LOW IDLE |
| Rack travel in mm: 6.20 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 8.5 cm3/1000 strokes: + 0.5 Spreed cm3/1000 strokes: 1.0 | control lever position degree : 10.0 tolerance degree : +- 2.0 Setting point w/out bumper spring Rated speed rpm : 315 rack travel mm : 6.20 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | SET IDLE AUXILIARY SPRING |
| | Rated speed rpm : 400 rack travel mm : 4.60 |
| IDLE STAGE | Tolerance mm : + 0.10 |
| Rack travel in mm: 6.50 Tolerance mm: +- 0.10 | + Load pick-up + Rated speed rpm : 250 - rack travel mm : > 8.00 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 1000 |
| Rated speed rpm : 1000 | CRT mm max. : 1.75 |
| Ref. pressure ALDA / ADA hPa : 1850 Del. quantity cm3/1000 strokes : 52.2 cm3/1000 strokes : + 0.5 | rack travel mm : 6.20 Rated speed rpm : 315 |
| Check tolerance cm3/1000s. : + 1.5 | TORQUE CONTROL |
| Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0 | Rated speed rpm : 1000 rack travel mm : 13.75 Tolerance mm : + 0.05 |
| RATED SPEED | Rated speed rpm : 1600 rack travel mm : 13.10 Tolerance mm : + 0.10 |
| control lever position degree : 50.0 | Rated speed rpm : 2200 rack travel mm : 12.30 Tolerance mm : + 0.10 |
| Rated speed rpm : 2500 rack travel mm : 8.70 Tolerance mm : +- 0.20 | ADJUSTMENT TEST ADA/ALDA |
| Rated speed rpm : 2950 | SETTING |
| rack travel mm : 0.50 Tolerance mm : +- 0.50 | Rated speed rpm : 1000 Ref. pressure |
| SET IDLE CONTROL LEVER POSITION | Ref. pressure ALDA / ADA hPa : 1600 rack travel mm : -0.45 |

| Tolerance mm MEASUREMENT Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm | : 1000 : 1100 : -3.05 : + 0.10 : 750 : -5.00 | Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 36.5 cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 1.5 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0 HIGH IDLE |
|--|--|---|
| FUEL DELIVERY CHA | ARACTERISTICS | Ref. pressure |
| Ref. pressure ALDA / ADA hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Ref. pressure ALDA / ADA hPa Rated speed rpm Spreed Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Spreed cm3/1000s. Spreed cm3/1000strokes Check tolerance | : 1850 : 1600 : 50.8 : +- 0.8 : +- 1.8 : 2.5 : 3.0 : 1850 : 2200 : 49.5 : +- 1.0 : +- 2.0 | ALDA / ADA hPa : 1850 Rated speed rpm : 2500 rack travel mm : 8.70 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 32.0 cm3/1000s trokes : + 2.0 Check tolerance cm3/1000s : + 3.0 Spreed cm3/1000s : 2.5 Check tolerance cm3/1000s : 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.10 Del. quantity cm3/1000 strokes : 58.8 cm3/1000 strokes : + 4.0 Check tolerance cm3/1000 strokes : + 5.0 Spreed cm3/1000s : + 5.0 Spreed cm3/1000 strokes : 6.0 |
| cm3/1000s. Ref. pressure | : 3.0 | Check tolerance cm3/1000s. : 6.0 |
| ALDA / ADA hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. | : 36.5 : +- 0.5 : +- 1.5 | LOW IDLE Rated speed rpm : 315 Del. quantity cm3/1000 strokes : 8.7 Check tolerance cm3/1000s. : +- 2.3 Spreed Check tolerance cm3/1000s. : 1.5 |

control lever

position degree : > 35.50

control lever

position degree : < 33.00

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 10.0 tolerance degree : \div 2.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

Rated speed rpm : 340

Rack travel in mm : 13.80 Tolerance mm : + 0.70

Del. quantity

cm3/1000 strokes : 48.0 cm3/1000 strokes : +- 3.5

Current A : 1.80

Rated speed rpm : 2950

Rack travel in mm : 0.50 Tolerance mm : + 0.50

Current short-

duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

Test with KDEP-P400

TESTING

Rated speed rpm : 1000

Ref. pressure

ALDA / ADA hPa : 1850

Set quantity with control lever

cm3/1000 strokes : 22.0
cm3/1000 strokes : +- 0.5
Voltage Volt : 1.636
Tolerance Volt : +- 0.003

Check tolerance

Volt : +- 0.001

ADJUSTMENT

Rated speed rpm : 1000

Ref. pressure

ALDA / ADA hPa : 1850

Rack travel in mm

Voltage Volt : 2.487 Tolerance Volt : +- 0.030

Check tolerance

Volt : + 0.060

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 315 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 05.03.96 : ISO 4113

Combination No. : 0 402 646 760

Injection pump

Pump designation : PE6P120A320LS7834

: -10

EP type number

: 0 412 626 853

Governor

Governer design. : RQ300/1050PA1030-23

Governer no. : 0 421 801 769

Cust. part No. : 0260743502

Customer-spec. information Customer : MB-NFZ : 0M401 LA Motor

Power KW

: 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar

Tolerance bar : \leftarrow 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50

Tolerance mm : +- 0.50

Firing order : 6-3-5-2-4-

: 1-

Phasing : 0-60-120-180-240

: -300-360

Tolerance : +- 0.30

Check

tolerance "NW : \leftarrow 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 230.0

| cm3/1000 strokes | : + 1.0 | ∔ guide sleeve |
|----------------------|----------------------|--|
| | | + travel mm : 11.50 |
| Check tolerance | | + Tolerance mm : + 0.50 |
| cm3/1000s. | : +- 4.0 | 1 |
| | | |
| Spreed | | GUIDE SLEEVE POSITION |
| cm3/1000 strokes | : 5.0 | 00102 022272 1 00111011 |
| tiller 1000 ott okes | . 3.0 | Rated speed rpm : 600 |
| Check tolerance | | |
| cm3/1000s. | : 9.0 | Rack travel in mm: 20.00 |
| CIII 7 10003. | . 9.0 | + Tolerance mm : + 0.80 |
| Dated aread are | . 700 | Troterance mm : - 0.00 |
| Rated speed rpm | : 360 | † |
| | | FULL LOAD DELTUEDY AT SULL LOAD OTOD |
| | 5.00 | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rack travel in m | | + |
| Tolerance mm | : +- 6,10 | + Rated speed rpm : 550 |
| Del. quantity | | + Aneroid pressure |
| ≈m3/1000 strokes | : 13.0 | + hPa : 1000 |
| cm3/1000 strokes | : + 3.0 | + hPa : 1000 + Del. quantity |
| Check tolerance | | + cm3/1000 strokes : 230.0 |
| cm3/1000s. | | + cm3/1000 strokes : + 1.0 |
| Spreed | - | + Check tolerance |
| cm3/1000 strokes | : 6.0 | cm3/1000s. : +- 4.0 |
| Check tolerance | | + Spreed |
| cm3/1000s. | | + cm3/1000 strokes : 5.0 |
| CIR 10000. | . 10.0 | + Check tolerance |
| | | - cm3/1000s. : 9.0 |
| (B) SETTING OF I | ALLECTION DUMD | T (11137 10003 9.0 |
| | NJECTION PUMP | † |
| WITH GOVERNOR | | † |
| | | |
| | | - + CONTROL LEVER |
| GUIDE SLEEVE TRA | VEL | + |
| | | + control lever |
| Rated speed rpm | : 300 | + position degree : 100.0 |
| guide sleeve | | † tolerance degree : +- 4.0 |
| travel mm | : 1.78 | + |
| Tolerance mm | : +- 0.10 | + RATED SPEED |
| | | } |
| Rated speed rpm | : 1104 | rack travel mm : 13.80 |
| guide sleeve | | Rated speed rpm : 1098 |
| travel mm | : 6.51 | + Tolerance 1/min : +- 8 |
| Tolerance mm | | 1 10001 01/100 1/1011/1 |
| TO COT GLICE THE | | Track travel mm : 4.00 |
| Dated speed pro | : 1050 | + Rated speed rpm : 1195 |
| Rated speed rpm | . 1000 | |
| guide steeve | . 4.00 | Tolerance 1/min : +- 15 |
| travel mm | : 6.00 | T ==================================== |
| Tolerance mm | : 0.10 | rack travel mm : 0.75 |
| | | Tolerance mm : +- 0.75 |
| Rated speed rpm | : 421 | + Rated speed rpm : 1300 |
| guide sleeve | | + |
| travel mm | : 4.00 | + |
| Tolerance mm | : +- 0.10 | + |
| | | + LOW IDLE |
| Rated speed rpm | : 550 | + |
| guide sleeve | - | + |
| travel mm | : 6.00 | control lever |
| Tolerance mm | | position degree : 74.0 |
| TOTAL GLICE WILL | | tolerance degree : +- 4.0 |
| Dahad amazal was | . 1270 | T coterance degree : ** 4.0 |
| Rated speed rpm | : 12/0 | T tarting. |
| | | † Testing: |
| | | |

| | | + Rated speed rpm : > 100 |
|---|---------------------------------------|---|
| Rated speed rpm rack travel mm | : 300 : 5.20 | Rated speed rpm : < 220 |
| Tolerance mm | : +- 0.10 | + Check + speed 1/min : > 80 |
| rack travel mm | : 2.00 | + Check |
| Rated speed rpm Tolerance 1/min | : 405 : +- 20 | + speed 1/min : < 240 |
| Rated speed rpm | : 200 | FUEL DELIVERY CHARACTERISTICS |
| CRT mm min. | : > 7.00 | Aneroid pressure |
| | | + hPa : 1000 + Rated speed rpm : 1050 |
| TORQUE CONTROL | | Rated speed rpm : 1050 Del. quantity |
| , | | cm3/1000 strokes : 229.0 |
| Rated speed rpm | : 550 | + cm3/1000 strokes : + 3.0 |
| rack travel mm | : 14.80 | Check tolerance |
| Tolerance mm | : +- 0.05 | + cm3/1000s. : +- 6.0 + Spreed |
| Rated speed rpm | : 1050 | - spreed - cm3/1000 strokes : 8.0 |
| rack travel mm | : 14.80 | Check tolerance |
| Tolerance mm | : +- 0.10 | cm3/1000s. : 12.0 |
| Rated speed rpm | • 700 | + Aneroid pressure |
| rack travel mm | | hPa : - |
| Tolerance mm | | Rated speed rpm : 500 |
| | | + Del. quantity |
| ANEDOTO / AL TITUDE | | |
| ANEROID/ALTITUDE COMPENSATOR TEST | | + cm3/1000 strokes : +- 1.0 + Check tolerance |
| CONFERENCE TEST | | + cm3/1000s. : +- 4.0 |
| | | + Spreed |
| SETTING | | + cm3/1000 strokes : 8.0 |
| Rated speed rpm | : 400 | + Check tolerance + cm3/1000s. : 12.0 |
| Pressure hPa | : 1000 | T (11137 10003 12.0 |
| rack travel mm | : 14.80 | |
| Tolerance mm | : +- 0.05 | BREAKAWAY |
| MEASUREMENT | | + |
| Properties bPs | • | + Rack travel in mm : 13.80 + Rated speed rpm : 1098 |
| Pressure hPa Rated speed rpm | : 400 | + Rated speed rpm : 1098 + Tolerance 1/min : +- 8 |
| rack travel mm | | + |
| Tolerance mm | : ← 0.15 | + |
| Rated speed rpm | : 400 | STARTING FUEL DELIVERY |
| Pressure hPa | : 400 | Rated speed rpm : 100 |
| rack travel mm | : 12.90 | + Del. quantity |
| Tolerance mm | : +- 0.20 | + cm3/1000 strokes : 210.0 |
| Draceura hDa | : 600 | + cm3/1000 strokes : + 15.0 + Check tolerance |
| Pressure hPa rack travel mm | : 000 | + cm3/1000s. : +- 19.0 |
| Tolerance mm | : +- 0.20 | + |
| | | |
| START CUT-OUT | · · · · · · · · · · · · · · · · · · · | Ţ |
| | | + LOW IDLE |
| | | |

| Rated speed rpm Del. quantity | : | 300 |
|---|-----------|-------------|
| cm3/1000 strokes cm3/1000 strokes | : : +- | 13.0 3.0 |
| Check tolerance cm3/1000s. | : +- | 6.0 |
| Spreed cm3/1000 strokes Check tolerance | : | 6.0 |
| cm3/1000s. | : | 10.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.06.96 Test oil : ISO 4113

Combination No. : 0 400 074 886

Injection pump

Pump designation : PES4M55C32ORS167 EP type number : 0 410 054 960

Governor

Governer design. : RSF400/2000M55-7 Governer no. : 0 420 021 268

Cust. part No. :

Customer-spec. information

Customer : DPICO

Motor : 0M601-2.31 (Dom)

Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : +- 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : + 0.20

Check

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 38.5

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 3.0

| Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 6.5 cm3/1000 strokes : + 0.5 Spreed cm3/1000 strokes : 1.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR | control lever position degree : 14.0 tolerance degree : + 2.0 SET IDLE AUXILIARY SPRING Rated speed rpm : 500 rack travel mm : 3.50 Tolerance mm : + 0.10 Load pick-up |
|---|---|
| IDLE STAGE | Rated speed rpm : 250 rack travei mm : 12.20 |
| Rack travel in mm: 6.25 Tolerance mm: +- 0.25 | Rated speed rpm : 1000 CRT mm max. : 1.45 |
| FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Ref. pressure ALDA / ADA hPa : - | rack travel mm : 5.10 Rated speed rpm : 400 |
| Del. quantity cm3/1000 strokes : 38.5 cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 1.5 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0 RATED SPEED | TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15 Tolerance mm : + 0.05 Rated speed rpm : 1800 rack travel mm : 11.90 Tolerance mm : + 0.10 Rated speed rpm : 2000 rack travel mm : 11.80 |
| control lever position degree : 50.0 | Tolerance mm : + 0.10 |
| Rated speed rpm : 2250 rack travel mm : 7.70 Tolerance mm : + 0.25 Rated speed rpm : 2550 rack travel mm : 0.50 Tolerance mm : + 0.50 | FUEL DELIVERY CHARACTERISTICS Ref. pressure ALDA / ADA hPa : - Rated speed rpm : 1800 Del. quantity cm3/1000 strokes : 40.8 cm3/1000 strokes : +- 0.8 Check tolerance |
| SET IDLE CONTROL LEVER POSITION Rated speed rpm : 1000 CRT mm max. : 1.45 | Check tolerance cm3/1000s. : +- 1.8 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0 |
| LOW IDLE | Ref. pressure ALDA / ADA hPa : - Rated speed rpm : 2000 |

| Spreed Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance | : +- 1.0 | † † † | Check tolerance cm3/1000s. | : 1.5 |
|---|---------------------|---|--|-------------------|
| Check tolerance cm3/1000s. Spreed | | + | | |
| cm3/1000 strokes | : 2.5 | + | | |
| Check tolerance cm3/1000s. | : 3.0 | ‡ | control lever position degree | : > 47.00 |
| HIGH IDLE | <u> </u> | <u> </u> | control lever position degree | : < 44.50 |
| Ref. pressure ALDA / ADA hPa Rated speed rpm rack travel mm Tolerance mm | | +++++++++++++++++++++++++++++++++++++++ | SETTING PNEUMATIC (PLA) POSITION | FAST IDLE (PLA) |
| Del. quantity cm3/1000 strokes cm3/1000 strokes | : 25.5 : + 2.0 | + | control lever position degree tolerance degree | |
| Check tolerance cm3/1000s. Spreed | : +- 3.0 | - | Rated speed rpm | : 425 |
| cm3/1000 strokes | : 2.5 | + | Rack travel in mm | |
| Check tolerance cm3/1000s. | : 3.0 | | Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes | : 23.0 |
| STARTING FUEL DEL | .IVERY | 1 | Check tolerance | |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes | : 21.60 : + 1.50 | + | cm3/1000s. Vacuum hPa | : 400.0 |
| cm3/1000 strokes Check tolerance | : +- 4.0 | Ī | TESTING PNEUMATIC | SHUTOFF DEVICE |
| cm3/1000s. Spreed | : +- 5.0 | + | Rated speed rpm Vacuum hPa | : 400 : -450.0 |
| cm3/1000 strokes Check tolerance | | ‡ | | |
| cm3/1000s. | : 6.0 | ‡ | | |
| | | ‡ | End of test specif | fication sheet |
| LOW IDLE | | <u> </u> | | |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Check tolerance | | † † † † † | | |
| cm3/1000S. Spreed | : ← 2.3 | † † † | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.07.96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 647

Injection pump

Pump designation : PES6P120A720RS7366 EP type number : 0 412 726 933

Governor

Governer design. : RQV275...1100PA1208K

Governer no. : 0 421 815 459

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE : 8460.41.4000 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance *C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 273.0

cm3/1000 strokes : +- 1.0

Check tolerance

| + | Tolerance mm : +- 2.70 |
|--|--|
| Spreed cm3/1000 strokes : 5.0 | |
| Check tolerance | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000s. : 9.0 | Rated speed rpm : 1100 Aneroid pressure |
| Rated speed rpm : 275 | hPa : 1200 Del. quantity |
| Rack travel in mm: 6.80 | cm3/1000 strokes : 273.0 cm3/1000 strokes : +- 1.0 |
| Tolerance mm : + 0.10 + | Check tolerance |
| Del. quantity + cm3/1000 strokes : 23.0 + | cm3/1000s. : +- 4.0 Spreed |
| cm3/1000 strokes : +- 3.0 +- Check tolerance +- | cm3/1000 strokes : 5.0 Check tolerance |
| cm3/1000s. : + 6.0 | cm3/1000s. : 9.0 |
| cm3/1000 strokes : 8.0 Check tolerance | |
| cm3/1000s. : 12.0 | CONTROL LEVER |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | <pre>control lever position degree : 117.0 tolerance degree : +- 4.0</pre> |
| GUIDE SLEEVE TRAVEL | RATED SPEED |
| + | rack travel mm : 11.70 |
| guide sleeve + | Rated speed rpm : 1145 Tolerance 1/min : +- 5 |
| travel mm : 1.70 + Tolerance mm : + 0.20 | rack travel mm : 4.00 Rated speed rpm : 1260 |
| Rated speed rpm : 1155 | Tolerance 1/min : +- 15 |
| travel mm : 9.75 + | rack travel mm : 0.50 |
| Tolerance mm : +- 0.15 | Tolerance mm : +- 0.50 Rated speed rpm : 1350 |
| Rated speed rpm : 790 + guide sleeve + | |
| travel mm : 6.42 + Tolerance mm : + 0.25 + | LOW IDLE |
| Rated speed rpm : 460 | control lever |
| travel mm : 3.77 Tolerance mm : + 0.25 | position degree : 76.0 tolerance degree : +- 4.0 |
| Rated speed rpm : 1440 | Testing: |
| guide sleeve travel mm : 13.50 + Tolerance mm : + 0.50 | Rated speed rpm : 275 rack travel mm : 6.80 Tolerance mm : + 0.10 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 100 |
| Rated speed rpm : 1310 | CRT mm min. : > 8.30 |
| Rack travel in mm: 10.00 | Rated speed rpm : 335 |

| | | † |
|---|------------------------------|--|
| TORQUE CONTROL | | FUEL DELIVERY CHARACTERISTICS |
| Rated speed rpm rack travel mm Tolerance mm | : 12.75 | Aneroid pressure hPa : 1200 Rated speed rpm : 800 |
| Rated speed rpm rack travel mm Tolerance mm | | Del. quantity cm3/1000 strokes : 290.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 13.10 | Aneroid pressure hPa : 1200 |
| Rated speed rpm rack travel mm Tolerance mm | : 13.10 | Del. quantity cm3/1000 strokes : 264.0 cm3/1000 strokes : +- 3.0 Check tolerance |
| ANEROID/ALTITUDE COMPENSATOR TEST | | + cm3/1000s. : +- 6.0 + Aneroid pressure + hPa : - |
| SETTING | | Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 144.0 |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1200 : 13.40 | - cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 4.0 |
| MEASUREMENT | | BREAKAWAY |
| Pressure hPa Rated speed rpm rack travel mm Tolerance mm | : 9.70 | Rack travel in mm : 11.70 Rated speed rpm : 1145 Tolerance 1/min : +- 5 |
| Rated speed rpm | : 800 | |
| Pressure hPa rack travel mm Tolerance mm | : 290 : 10.70 : + 0.20 | STARTING FUEL DELIVERY Rated speed rpm : 100 |
| Pressure hPa rack travel mm Tolerance mm | : 520 : 12.50 : + 0.05 | + rack travel mm : 12.20 + Tolerance mm : + 0.30 + Del. quantity + cm3/1000 strokes : 120.0 + cm3/1000 strokes : + 15.0 - Check tolerance |
| START CUT-OUT | | cm3/1000s. : +- 19.0 |
| Rated speed rpm Rated speed rpm | : > 170 : < 220 | |
| Check speed 1/min Check speed 1/min | : > 150 : < 240 | LOW IDLE Rated speed rpm : 275 Del. quantity |
| | | + cm3/1000 strokes : 23.0 |

cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000s. : +- 6.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.07.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 074 886

Injection pump

Pump designation : PES4M55C320RS167 EP type number : 0 410 054 960

Governor

Governer design. : RSF375/2000M55-7 Governer no. : 0 420 021 268

Cust. part No. :

Customer-spec. information : DPICO Customer

: OM601-2.31 (Dom) Motor

Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 Tolerance °C 2.0

: 1 469 990 351 Overflow valve

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 bar : +- 1.5 Tolerance bar

: 1 680 750 014 Test Lines

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

2.05 Prestroke mm Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : +- 0.20

Check

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

1000 Rated speed rpm :

Rack travel in mm: 12.15 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 38.5

cm3/1000 strokes : +-0.5

Check tolerance

cm3/1000s. 1.5 : +-

Spreed

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. 3.0

| | , |
|---|---|
| Rated speed rpm : 375 Del. quantity cm3/1000 strokes : 6.5 cm3/1000 strokes : +- 0.5 Spreed cm3/1000 strokes : 1.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR | control lever position degree : 14.0 tolerance degree : + 2.0 SET IDLE AUXILIARY SPRING Rated speed rpm : 450 rack travel mm : 3.90 Tolerance mm : + 0.10 |
| IDLE STAGE | Load pick-up Rated speed rpm : 250 rack travel mm : 11.50 |
| Rack travel in mm : 6.25 Tolerance mm : + 0.25 | Rated speed rpm : 1000 CRT mm max. : 1.45 |
| FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Ref. pressure | rack travel mm : 5.20 Rated speed rpm : 375 |
| ALDA / ADA hPa : - Del. quantity cm3/1000 strokes : 38.5 cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 1.5 Spreed cm3/1000 strokes : 2.5 | TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.15 Tolerance mm : +- 0.05 |
| Check tolerance cm3/1000s. : 3.0 | Rated speed rpm : 1800 rack travel mm : 11.90 Tolerance mm : +- 0.10 |
| RATED SPEED | Rated speed rpm : 2000 rack travel mm : 11.80 Tolerance mm : + 0.10 |
| control lever position degree : 50.0 | |
| Rated speed rpm : 2200 rack travel mm : 8.90 Tolerance mm : + 0.25 | FUEL DELIVERY CHARACTERISTICS Ref. pressure ALDA / ADA hPa : - |
| Rated speed rpm : 2550 rack travel mm : 0.50 Tolerance mm : + 0.50 | Rated speed rpm : 1800 Del. quantity cm3/1000 strokes : 40.8 cm3/1000 strokes : +- 0.8 Check tolerance |
| SET IDLE CONTROL LEVER POSITION | + cneck toterance + cm3/1000s. : +- 1.8 + Spreed |
| Rated speed rpm : 1000 | cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0 |
| CRT mm max. : 1.45 | cm3/1000s. : 3.0 Ref. pressure |
| LOW IDLE | + ALDA / ADA hPa : - Rated speed rpm : 2000 |

| Spreed Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. | : 41.0 : + 1.0 : + 2.0 : 2.5 : 3.0 | +++++++++++++++++++++++++++++++++++++++ |
|---|---|--|
| HIGH IDLE | | + |
| Ref. pressure ALDA / ADA hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance | : ← 2.0 : ← 3.0 : 2.5 | +++++++++++++++++++++++++++++++++++++++ |
| cm3/1000s. | : 3.0 | + |
| STARTING FUEL DEL | IVERY | 1 |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance | : +- 4.0 | +++++++++++++++++++++++++++++++++++++++ |
| cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. | : +- 5.0 : 6.0 : 6.0 | † † † † |
| LOW IDLE | | + |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s. Spreed | : 375 : 5.20 : + 0.10 : 7.8 : + 2.3 | -++++++++++++++++++++++++++++++++++++ |

| Check tolerance cm3/1000s. | : | 1.5 |
|---|--------|---|
| control lever position degree | : > | 47.00 |
| control lever position degree | ; < | 44.50 |
| SETTING PNEUMATIC (PLA) POSITION | FAST | IDLE (PLA) |
| control lever position degræe tolerance degree | | 14.0 2.0 |
| Rated speed rpm | : | 425 |
| Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Vacuum hPa | : +- | 7.30 0.80 16.0 3.5 4.5 400.0 |
| TESTING PNEUMATIC Rated speed rpm Vacuum hPa | : | OFF DEVICE 375 -450.0 |
| End of test specif | ficati | on sheet |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.07.96 Test oil : ISO 4113

Combination No. : 0 400 075 923

Injection pump

Pump designation : PES5M55C32ORS168 EP type number : 0 410 055 978

Governor

Governer design. : RSF350/2000M55-8 Governer no. : 0 420 021 269

Cust. part No. :

Customer—spec. information Customer : DPICO

Motor : 0M602-2.91 (Dom)

Power KW : 69.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600 REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : +- 0.20

Check

tolerance °NW : \leftarrow 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 38.5

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : +- 1.5

cm5/10005. : +- 1.5

Spreed cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. : 3.0

J28

| 1 | |
|--|---|
| Rated speed rpm : 350 | LOU TO E |
| Rack travel in mm: 5.30 | LOW IDLE |
| Del. quantity | control lever |
| cm3/1000 strokes : 6.5 cm3/1000 strokes : +- 0.5 | position degree : 14.0 tolerance degree : +- 2.0 |
| Spreed cm3/1000 strokes : 1.0 | Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 5.30 |
| (B) SETTING OF INJECTION PUMP | |
| WITH GOVERNOR + | SET IDLE AUXILIARY SPRING |
| IDLE STAGE | Rated speed rpm : 450 rack travel mm : 4.10 Tolerance mm : +- 0.10 |
| Rack travel in mm: 6.25 Tolerance mm: + 0.25 | Load pick-up |
| | Rated speed rpm : 250 rack travel mm : 10.50 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 1000 |
| Rated speed rpm : 1000 + Ref. pressure + | CRT mm max. : 1.45 |
| ALDA / ADA hPa : - + Del. quantity + | rack travel mm : 5.30 |
| cm3/1000 strokes : 38.5 + cm3/1000 strokes : + 0.5 + Check tolerance | Rated speed rpm : 350 |
| cm3/1000s. : + 1.5 + Spreed | TORQUE CONTROL |
| cm3/1000 strokes : 2.5 + Check tolerance | Rated speed rpm : 1000 |
| cm3/1000s. : 3.0 | rack travel mm : 12.15 Tolerance mm : +- 0.05 |
| RATED SPEED | Rated speed rpm : 1800 rack travel mm : 12.00 Tolerance mm : +- 0.10 |
| control lever position degree : 50.0 | Rated speed rpm : 2000 |
| Rated speed rpm : 2200 | rack travel mm : 11.80 Tolerance mm : +- 0.10 |
| rack travel mm : 8.90 + Tolerance mm : +- 0.25 | |
| Rated speed rpm : 2550 | EUEL DELTHERY CHARACTERICTICS |
| rack travel mm : 0.50 + Tolerance mm : + 0.50 + | FUEL DELIVERY CHARACTERISTICS |
| SET IDLE CONTROL LEVER POSITION | Ref. pressure ALDA / ADA hPa : - Rated speed rpm : 1800 |
| Rated speed rpm : 1000 | Del. quantity cm3/1000 strokes : 40.8 cm3/1000 strokes : +- 0.8 |
| CRT mm max. : 1.45 | Check tolerance cm3/1000s. : +- 1.8 |

| Spreed cm3/1000 strokes Check tolerance | | + Del. quantity + cm3/1000 strokes : 7.8 + Check tolerance |
|--|----------|--|
| cm3/1000s. | : 3.0 | cm3/1000s. : +- 2.3 Spreed |
| Ref. pressure ALDA / ADA hPa Rated speed rpm | | Check tolerance cm3/1000s. : 1.5 |
| Spreed Del. quantity | | |
| cm3/1000 strokes cm3/1000 strokes | | + |
| Check tolerance cm3/1000S. Spreed | : ← 2.0 | t control lever t position degree : > 47.00 |
| cm3/1000 strokes Check tolerance | : 2.5 | position degree . 7 miles |
| cm3/1000s. | : 3.0 | control lever position degree : < 44.50 |
| HIGH IDLE | | SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION |
| Ref. pressure ALDA / ADA hPa | : - | ‡ |
| Rated speed rpm | 2200 | control lever |
| rack travel mm | : 8.90 | position degree : 14.0 |
| Tolerance mm Del. quantity | : + 0.25 | + tolerance degree : +- 2.0 + |
| cm3/1000 strokes cm3/1000 strokes | | + Rated speed rpm : 400 + |
| Check tolerance cm3/1000S. | : + 3.0 | + Rack travel in mm : 6.10 + Tolerance mm : + 0.80 |
| Spreed cm3/1000 strokes | : 2.5 | + Del. quantity + cm3/1000 strokes : 11.0 |
| Check tolerance | : 2.5 | - cm3/1000 strokes : +- 3.5 |
| cm3/1000s. | : 3.0 | Check tolerance |
| | | + cm3/1000s. : + 4.5 |
| STARTING FUEL DEL | IVERY | Vacuum hPa : 400.0 |
| Rated speed rpm | : 100 | <u>†</u> |
| rack travel mm | : 21.60 | <u> </u> |
| Tolerance mm Del. quantity | : + 1.50 | TESTING PNEUMATIC SHUTOFF DEVICE |
| cm3/1000 strokes | | Rated speed rpm : 350 |
| cm3/1000 strokes Check tolerance | | + Vacuum 'nPa : −450.0 + |
| cm3/1000s. Spreed | : +- 5.0 | |
| m3/1000 strokes | : 6.0 | t made of the stat |
| Check tolerance cm3/1000s. | : 6.0 | + End of test specification sheet + |
| LOW IDLE | | † |

K02

Rated speed rpm : 350

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 11.09.96

Test oil

Combination No. : 9 400 085 303

Injection pump

Pump designation : PES6A95D41ORS2714 EP type number : 9 400 084 001

Governor

Governer design. : RQV375...1300AB1208

: -3L

Governer no. : 9 420 080 263

Cust. part No. :

Customer-spec. information Customer : FORD Motor : 6,6 TC : 127.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : ← 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

173.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.20 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

: 10.95 travel Tolerance mm : +- 1.95 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.15 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 87.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

K03

| | + Rated speed rpm : 1300 |
|---|--|
| Spreed | + Aneroid pressure |
| cm3/1000 strokes : 3.5 | + hPa : 700 + Del. quantity |
| Check tolerance | + cm3/1000 strokes : 87.0 |
| cm3/1000s. : 8.0 | + cm3/1000 strokes : + 1.0 + Check tolerance |
| Rated speed rpm : 375 | + cm3/1000s. : +- 3.0 |
| | + Spreed |
| Rack travel in mm : 6.50 | + cm3/1000 strokes : 3.5 + Check tolerance |
| Tolerance mm : +- 0.10 | - cm3/1000s. : 8.0 |
| Del. quantity cm3/1000 strokes : 9.0 | 1 |
| cm3/1000 strokes : +- 2.0 | Ţ |
| Check tolerance | + CONTROL LEVER |
| cm3/1000S. : +- 4.5 Spreed | t control lever |
| cm3/1000 strokes : 5.5 | position degree : 63.0 |
| Check tolerance cm3/1000s. : 9.0 | tolerance degree : + 4.0 |
| CHD7 (0003 7.0 | RATED SPEED |
| (B) SETTING OF INJECTION PUMP | + rack travel mm : 11.10 |
| WITH GOVERNOR | + Rated speed rpm : 1345 |
| | Tolerance 1/min : +- 5 |
| GUIDE SLEEVE TRAVEL | † + rack travel mm : 4.00 |
| | Rated speed rpm : 1465 |
| Rated speed rpm : 1345 guide sleeve | + Tolerance 1/min : +- 15 |
| travel mm : 8.55 | rack travel mm : 0.50 |
| Tolerance mm : +- 0.05 | + Tolerance mm : +- 0.50 + Rated speed rpm : 1600 |
| Rated speed rpm : 1100 | t waste opera i più . 1000 |
| guide sleeve travel mm : 6.45 | <u> </u> |
| Tolerance mm : +- 0.15 | LOW IDLE |
| Detect areas are 750 | † |
| Rated speed rpm : 350 guide sleeve | t control lever |
| travel mm : 1.45 | position degree : 16.0 |
| Tolerance mm : +- 0.15 | tolerance degree : +- 4.0 |
| Rated speed rpm : 700 | Testing: |
| guide sleeve travel mm : 4.30 | + + Rated speed rpm : 375 |
| Tolerance mm : +- 0.20 | rack travel mm : 6.50 |
| | Tolerance mm : +- 0.10 |
| GUIDE SLEEVE POSITION | rack travel mm : 2.00 |
| Dated around now : 47/5 | Rated speed rpm : 680 |
| Rated speed rpm : 1345 | + Tolerance 1/min : +- 30 - |
| Rack travel in mm: 16.50 | Rated speed rpm : 100 |
| Tolerance mm : +- 1.30 | † + CRT mm min. :> 9.50 |
| | + |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 495 |

| | | + Del. quantity |
|--|----------------------|---|
| TORQUE CONTROL | | |
| TOTAGE CONTINUE | | Check tolerance |
| Rated speed rpm | : 1300 | + cm3/1000s. : +- 4.0 |
| rack travel mm Tolerance mm | : 12.15 : +- 0.05 | + Spreed + cm3/1000 strokes : 5.0 |
| roterance mm | . — 0.03 | theck tolerance |
| Rated speed rpm | : 850 | + cm3/1000s. : 8.0 |
| rack travel mm | : 12.55 | † |
| Tolerance mm | : +- 0.05 | + Aneroid pressure + hPa : - |
| Rated speed rpm | : 1000 | Rated speed rpm : 500 |
| rack travel mm | : 12.35 | No. 1 minutes in |
| rack travel mm Tolerance mm | : +- 0.05 | cm3/1000 strokes : 62.0 |
| | | + cm3/1000 strokes : +- 1.0 |
| ANEROID/ALTITUDE | | |
| COMPENSATOR TEST | | Spreed |
| | | + cm3/1000 strokes : 3.5 |
| | | Check tolerance |
| SETTING | | cm3/1000s. : 8.0 |
| Rated speed rpm | : 500 | Ţ |
| Pressure hPa | : 700 | BREAKAWAY |
| rack travel mm | | + |
| Tolerance mm | : +- 0.05 | + + Rack travel in mm : 11.10 |
| MEASUREMENT | | + Rated speed rpm : 1345 |
| TIEACOINEI IEIT | | Tolerance 1/min : + 5 |
| Pressure hPa | : - | + |
| Rated speed rpm | : 500 | <u> </u> |
| Rated speed rpm | : 500 | STARTING FUEL DELIVERY |
| | /20 | + 2 |
| Pressure hPa rack travel mm | : 420 : 0.40 | + Rated speed rpm : 100 + rack travel mm : 20.00 |
| Tolerance mm | | + Tolerance mm : +- 1.00 |
| 10(01 01100 11111 | | Del. quantity |
| Pressure hPa | | - cm3/1000 strokes : 122.0 |
| rack travel mm | : 1.15 | + cm3/1000 strokes : +- 8.0 |
| Tolerance mm | : +- 0.05 | + Check tolerance + cm3/1000s. : +- 11.0 |
| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | |
| START CUT-OUT | | + |
| Rated speed rpm | : > 100 | İ |
| Rated speed rpm | | LOW IDLE |
| , , | | + |
| Check | | + Rated speed rpm : 375 |
| speed 1/min Check | : > 80 | + Del. quantity + cm3/1000 strokes : 9.0 |
| speed 1/min | : < 310 | cm3/1000 strokes : +- 2.0 |
| | | + Check tolerance |
| | | |
| FUEL DELIVERY CHA | RACTERISTICS | + Spreed + cm3/1000 strokes : 5.5 |
| Aneroid pressure | | time for the construction of the construction |
| hPa | : 700 | cm3/1000s. : 9.0 |
| Rated speed rpm | | + |
| | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 11.09.96

Test oil

Combination No. : 9 400 085 324

Injection pump

Pump designation : PES6A95D41ORS2801 EP type number : 9 400 084 023

Governor

Governer design. : RQV350...1300AB1255L

Governer no.

: 9 420 080 294

Cust. part No. :

Customer-spec. information

Customer : FORD

: 7.8 L - TC Motor

: 158.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 3.20
Tolerance mm : +- 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Beginning of delivery differende

and maximum rack

travel

Tolerance mm : +- 1.50

Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 13.45

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 107.0

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 3.0 cm3/1000s.

| + | Tolerance mm : +- 1.30 |
|---|--|
| Spreed + cm3/1000 strokes : 3.5 + | FILL LOAD DELTWERY AT FULL LOAD CTOD |
| Check tolerance | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000s. : 8.0 | Rated speed rpm : 1300 Aneroid pressure |
| Rated speed rpm : 350 | hPa : 1000 |
| <u> </u> | Del. quantity cm3/1000 strokes : 107.0 |
| Rack travel in mm : 6.60 | cm3/1000 strokes : +- 1.0 |
| Tolerance mm : + 0.10 + | Check tolerance |
| Del. quantity + cm3/1000 strokes : 14.0 + | cm3/1000s. : +- 3.0 Spreed |
| cm3/1000 strokes : +- 2.0 | cm3/1000 strokes : 3.5 |
| Check tolerance | Check tolerance |
| cm3/1000s. : +- 4.5 | cm3/1000s. : 8.0 |
| Spreed cm3/1000 strokes : 5.5 | |
| Check tolerance + cm3/1000s. : 9.0 + | CONTROL LEVER |
| till3/10000. | CONTINUE LEVEN |
| + | control lever |
| (B) SETTING OF INJECTION PUMP + | position degree : 60.0 tolerance degree : +- 4.0 |
| WITH GOVERNOR | toterance degree : +- 4.0 |
| + | control lever |
| GUIDE SLEEVE TRAVEL | position degree : 115.0 |
| Rated speed rpm : 1450 | tolerance degree : +- 4.0 |
| guide sleeve + | RATED SPEED |
| travel mm : 8.55 + | |
| Tolerance mm : +- 0.05 + | rack travel mm : 12.40 |
| Rated speed rpm : 700 | Rated speed rpm : 1345 Tolerance 1/min : +- 5 |
| guide sleeve | Total dilectiviting |
| travel mm : 3.70 | rack travel mm : 4.00 |
| Tolerance mm : +- 0.20 + | Rated speed rpm : 1500 |
| Rated speed rpm : 350 | Tolerance 1/min : +- 15 |
| guide sleeve | rack travel mm : 0.50 |
| travel mm : 1.45 + | Tolerance mm : +- 0.50 |
| Tolerance mm : +- 0.25 | Rated speed rpm : 1600 |
| Rated speed rpm : 500 | |
| guide sleeve | |
| travel mm : 2.90 | LOW IDLE |
| Tolerance mm : + 0.20 | |
| Rated speed rpm : 1000 | control lever |
| guide sleeve + | position degree : 70.0 |
| travel mm : 5.10 + | tolerance degree : +- 4.0 |
| Tolerance mm : +- 0.20 | control lever |
| | position degree : 15.0 |
| GUIDE SLEEVE POSITION | tolerance degree : +- 4.0 |
| Rated speed rpm : 1390 | Testing: |
| Rack travel in mm: 16.50 | Rated speed rpm : 350 |

| rack travel mm Tolerance mm | | Check speed 1/min : < 310 |
|---|--------------------|---|
| Rated speed rpm | : 100 | T ———————————————————————————————————— |
| CRT mm min. | : > 9.00 | Aneroid pressure |
| Rated speed rpm | : 385 | hPa : 1000 + Rated speed rpm : 850 |
| TORQUE CONTROL | | |
| Rated speed rpm rack travel mm Tolerance mm | : 13.45 | + Check tolerance + cm3/1000S. : +- 4.0 + Spreed |
| Rated speed rpm | : 850 | - cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000S. : 8.0 |
| Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 | + |
| Rated speed rpm rack travel mm Tolerance mm | : 13.65 | + Aneroid pressure + hPa : 1000 + Rated speed rpm : 1050 + Del. quantity + cm3/1000 strokes : 107.5 |
| ANEROID/ALTITUDE COMPENSATOR TEST | | |
| SETTING | | Spreed + cm3/1000 strokes : 5.0 + Check tolerance |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 13.85 | cm3/1000s. : 8.0 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 75.0 |
| MEASUREMENT Pressure hPa | : - | cm3/1000 strokes : +- 1.0 Check tolerance |
| Rated speed rpm Rated speed rpm | | - cm3/1000s. : +- 3.0 - Spreed - cm3/1000 strokes : 3.5 |
| Pressure hPa rack travel mm Tolerance mm | : 610 | Check tolerance cm3/1000s. : 8.0 |
| Pressure hPa | | BREAKAWAY |
| rack travel mm Tolerance mm | : 0.40 | Rack travel in mm: 12.40 Rated speed rpm: 1345 Tolerance 1/min: +- 5 |
| START CUT-OUT | - | Total and mini |
| Rated speed rpm Rated speed rpm | : > 100 : < 290 | STARTING FUEL DELIVERY |
| Check speed 1/min | : > 80 | Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00 |

Del. quantity cm3/1000 strokes : 165.0 cm3/1000 strokes : +- 8.0

Check tolerance

cm3/1000s. : + 11.0

LOW IDLE

Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 14.0 cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s.: **←** 4.5 Spreed cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.09.96 Test oil : ISO 4113

Combination No. : 9 400 087 460

Injection pump

Pump designation : PES6P120A720LS7114

: -13

EP type number : 0 412 726 867

Governor

Governer design. : RQ300/1050PA911-3

Governer no. : 9 420 080 314

Cust. part No. : 0140748502

Customer-spec. information

Customer : MBB

Motor

: OM447 LA

Power KW

: 260.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 067

Outside diameter : 6.0

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x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm

: 5.25 : + 0.05

Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50Tolerance mm : + 1.50

Firing order : 6-2-4-1-5-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 13.50

Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 226.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

cm3/1000 strokes :

5.0

Check tolerance cm3/1000s. :

9.0

| Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance | : 6.00 : + 0.10 : 13.5 : + 3.0 : + 6.0 | Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. | : +- 1.0 : +- 4.0 |
|--|--|--|-----------------------------|
| cm3/1000s. | : 12.0 | CONTROL LEVER | |
| (B) SETTING OF IN WITH GOVERNOR | JECTION PUMP | control lever position degree tolerance degree | |
| GUIDE SLEEVE TRAV | E) | control lever position degree | : 99.0 |
| GOIDE SEEEVE TRAV | + | tolerance degree | |
| Rated speed rpm | : 300 + | חאדרה כחררה | |
| guide sleeve travel mm | : 2.75 | RATED SPEED | |
| Tolerance mm | : + 0.15 | rack travel mm | : 12.40 |
| | + | Rated speed rpm | |
| Rated speed rpm guide sleeve | : 1125 | Tolerance 1/min | : +- 8 |
| travel mm | : 7.30 | rack travel mm | |
| Tolerance mm | : ← 0.20 + | Rated speed rpm | |
| Rated speed rpm | : 600 | Tolerance 1/min | : +- 15 |
| guide sleeve | + | rack travei mm | : 0.75 |
| travel mm | : 6.00 | Tolerance mm | : +- 0.75 |
| Tolerance mm | : + 0.10 | Rated speed rpm | : 1300 |
| Rated speed rpm guide sleeve | : 1050 | | |
| travel mm | : 6.50 | LOW IDLE | |
| Tolerance mm | | | |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 9.45 | control lever position degree tolerance degree | |
| TOTE TOTAL THE | 1 | control lever | |
| GUIDE SLEEVE POSI | TION | position degree tolerance degree | : 13.0 : +- 4.0 |
| Rated speed rpm | : 600 | Testing: | |
| Rack travel in mm Tolerance mm | | Rated speed rpm rack travel mm Tolerance mm | : 300 : 6.00 : + 0.10 |
| FULL LOAD DELIVERY | Y AT FULL LOAD STOP : 600 | rack travel mm Rated speed rpm Tolerance 1/min | : 2.00 : 380 : + 20 |

| | | 1 Dated aread are . 1000 |
|-----------------------------------|---------------|---|
| Rated speed rpm | : 100 | Rated speed rpm : 1050 Del. quantity |
| CRT mm min. | : > 9.00 | + cm3/1000 strokes : 219.5 + cm3/1000 strokes : +- 2.0 |
| CRI mm mill. | . > 9.00 | + Check tolerance |
| TORQUE CONTROL | | |
| TORGOL CONTROL | | cm3/1000 strokes : 8.0 |
| Rated speed rpm rack travel mm | | + Check tolerance + cm3/1000s. : 12.0 |
| Tolerance mm | : +- 0.10 | + (113710003 |
| Rated speed rpm | : 1050 | + Aneroid pressure + hPa : 1500 |
| rack travel mm | | Rated speed rpm : 800 |
| Tolerance mm | | Del. quantity |
| . | 000 | + cm3/1000 strokes : 239.0 |
| Rated speed rpm rack travel mm | | cm3/1000 strokes : + 1.5 Check tolerance |
| Tolerance mm | | + cm3/1000s. : +- 4.5 |
| · · · · · · · · · · · · · | | Spreed |
| ANEDOTO / AL TITLIDE | | |
| ANEROID/ALTITUDE COMPENSATOR TEST | | + Check tolerance + cm3/1000s. : 12.0 |
| | | + |
| | | + Aneroid pressure |
| MEASUREMENT | | + hPa : - + Rated speed rpm : 500 |
| · IEAGOREI IEIVI | | + Del. quantity |
| Pressure hPa | : 240 | + cm3/1000 strokes : 131.0 |
| rack travel mm | : -2.80 | + cm3/1000 strokes : +- 1.0 |
| Tolerance mm | : ← 0.10 | + Check tolerance + cm3/1000s. : +- 4.0 |
| Pressure hPa | : 560 | Spreed |
| rack travel mm | : -0.80 | + cm3/1000 strokes : 8.0 |
| Tolerance mm | : +- 0.10 | + Check tolerance + cm3/1000s. : 12.0 |
| Pressure hPa | : 920 | T CIII37 (3003. : 12.0 |
| rack travel mm | : 0.25 | |
| Tolerance mm | : +- 0.05 | + BREAKAWAY |
| Pressure hPa | : 980 | 1 |
| rack travel mm | : 0.45 | + Rack travel in mm : 12.40 |
| Tolerance mm | : +- 0.05 | + Rated speed rpm : 1103 + Tolerance 1/min : +- 8 |
| | | |
| START CUT-OUT | | <u> </u> |
| Rated speed rpm | : > 100 | STARTING FUEL DELIVERY |
| Rated speed rpm | : < 220 | + |
| Check | | + Rated speed rpm : 100 + Del. quantity |
| speed 1/min | : > 80 | - cm3/1000 strokes : 230.0 |
| Check | | cm3/1000 strokes : +- 10.0 |
| speed 1/min | : < 240 | + Check tolerance + cm3/1000s. : +- 14.0 |
| FUEL DELIVERY CHA | ARACTERISTICS | † |
| Aneroid pressure | | I |
| hPa | : 1500 | + LOW IDLE |

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| Rated speed rpm Del. quantity | : | 300 |
|-------------------------------------|------|-------------|
| cm3/1000 strokes cm3/1000 strokes | : +- | 13.5 3.0 |
| Check tolerance cm3/1000S. Spreed | : +- | 6.0 |
| cm3/1000 strokes Check tolerance | : | 8.0 |
| cm3/1000s. | : | 12.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.09.96 Test oil : ISO 4113

Combination No. : 9 400 030 739

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1250A0C852R

Governer no. : 9 420 034 718

Cust. part No. : 3929403

Customer-spec. information Customer : CDC : 6BT Motor

Power KW : 114.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

: 40 temp. °C Tolerance *C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +~ 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : +- 0.50

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.75 Tolerance mm : \leftarrow 0.05

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| + | Check tolerance |
|---|---|
| Del. quantity cm3/1000 strokes : 102.0 | cm3/1000s. : 6.0 |
| cm3/1000 strokes : + 1.0 | |
| Check tolerance | CONTROL LEVER |
| cm3/1000s. : + 3.0 | control lever position degree : 115.0 |
| Spreed cm3/1000 strokes : 3.5 | RATED SPEED |
| Check tolerance | rack travel mm : 10.70 |
| cm3/1000s. : 6.0 | Rated speed rpm : 1320 Tolerance 1/min : +- 5 |
| Rated speed rpm : 475 | |
| † | rack travel mm : 7.50 Rated speed rpm : 1365 |
| Rack travel in mm: 5.10 | Tolerance 1/min : +- 5 |
| Tolerance mm : + 0.10 | |
| Del. quantity + | rack travel mm : 0.85 |
| cm3/1000 strokes : 21.5 + cm3/1000 strokes : + 2.0 + | Tolerance mm : +- 0.55 Rated speed rpm : 1450 |
| Check tolerance | Rated speed rpm : 1450 |
| cm3/1000s. : + 4.5 | rack travel mm : 7.50 |
| Spreed | Rated speed rpm : 1365 |
| cm3/1000 strokes : 3.5 + Check tolerance + | |
| cm3/1000s. : 5.5 | |
| + | LOW IDLE |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | control lever position degree : 87.0 |
| GUIDE SLEEVE POSITION | Setting point w/out bumper spring |
| Rated speed rpm : 800 | Rated speed rpm : 475 rack travel mm : 4.60 |
| Rack travel in mm: 0.50 Tolerance mm: + 0.20 | Testing: |
| . + | Rated speed rpm : 475 |
| governor spring + | rack travel mm : 5.10 Tolerance mm : + 0.10 |
| pre-tension + click setting x : 5.00 + | roterance mm : - U. TU |
| + 3.00 | rack travel mm :> 2.00 |
| | Rated speed rpm : 580 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Tolerance 1/min : +- 30 |
| Rated speed rpm : 1250 Aneroid pressure | Rated speed rpm : 100 |
| hPa : 900 + | CRT mm min. : > 19.00 |
| Del. quantity | |
| cm3/1000 strokes : 102.0 + cm3/1000 strokes : + 1.0 + | TORQUE CONTROL |
| Check tolerance | TOTAGE CONTINUE |
| cm3/1000s. : +- 3.0 | Rated speed rpm : 1250 |
| Spreed + | rack travel mm : 11.75 |
| cm3/1000 strokes : 3.5 | Tolerance mm : +- 0.05 |

| Rated speed rpm rack travel mm Tolerance mm | : 800 : 11.90 : +- 0.10 |
|---|--------------------------------------|
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa | : 800 : 900 |
| MEASUREMENT | |
| Pressure hPa Rated speed rpm rack travel mm Tolerance mm | : - : 800 : 11.00 : +- 0.20 |
| Rated speed rpm : | : 800 |
| Pressure hPa rack travel mm Tolerance mm | 11.80 |
| Pressure hPa : rack travel mm : Tolerance mm | |
| FUEL DELIVERY CHARA | ACTERISTICS |
| Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : cm3/1000 strokes : | 800 |

| Aneroid pressure | |
|------------------|--------------------|
| hPa | : 900 |
| Rated speed rpm | : 800 |
| Del. quantity | |
| cm3/1000 strokes | : 108.0 |
| cm3/1000 strokes | : ← 2.0 |
| Check tolerance | |
| cm3/1000s. | : +- 4.0 |
| Aneroid pressure | |
| hPa | • - |
| Rated speed rpm | : 800 |
| Del. quantity | |
| cm3/1000 strokes | : 97.5 |
| cm3/1000 strokes | : ← 1.0 |
| Check tolerance | |
| cm3/1000s. | : +- 3.0 |
| | |
| BREAKAWAY | |
| DICHINAWAT | |
| | |

Rack travel in mm : 10.70

| Rated speed rpm Tolerance 1/min | : 1320 : +- 5 | |
|--|--|--|
| STARTING FUEL DEL | IVERY | |
| Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. | - - · | |
| LOW IDLE | | |
| Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance | : 475 : 21.5 : + 2.0 : + 4.5 : 3.5 | |

End of test specification sheet

Check tolerance cm3/1000s. : 5.5

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.09.96 Test oil : ISO 4113

Combination No. : 9 400 030 746

Injection pump

Pump designation : PES4A95D320/3RS2880 EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250A0C862R

Governer no. : 9 420 034 720

Cust. part No. : 3930150

Customer-spec. information Customer : CDC
Motor : 4BT3.9
Power KW : 67.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270 Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.25 Tolerance mm : + 0.05

| Del. quantity cm3/1000 strokes | : 95.0 | Check tolerance cm3/1000s. | : 6.0 |
|---|---|---|--|
| cm3/1000 strokes | : + 1.0 | | |
| Check tolerance cm3/1000s. | : + 3.0 | CONTROL LEVER | |
| Spreed cm3/1000 strokes | : 3.5 | control lever position degree tolerance degree | : 102.0 : +- 4.0 |
| Check tolerance cm3/1000s. | : 6.0 | RATED SPEED | 40.20 |
| Rated speed rpm | : 475 | rack travel mm Rated speed rpm Tolerance 1/min | : 10.20 : 1315 : + 10 |
| Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes | : + 0.10 | rack travel mm Rated speed rpm Tolerance 1/min | : 1380 |
| cm3/1000 strokes Check tolerance cm3/1000s. | : ← 2.0 + | rack travel mm Tolerance mm Rated speed rpm | : 0.85 : ← 0.55 : 1450 |
| Spreed cm3/1000 strokes Check tolerance cm3/1000S. | + | rack travel mm Rated speed rpm | : 4.70 : 1380 |
| | Ţ | | |
| (B) SETTING OF IN. WITH GOVERNOR | JECTION PUMP | LOW IDLE | |
| | | LOW IDLE control lever position degree tolerance degree | : 77.0 : +- 4.0 |
| WITH GOVERNOR | TION | control lever position degree | : +- 4.0 |
| GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm | TION : 800 | control lever position degree tolerance degree | : +- 4.0 It bumper spring : 475 |
| WITH GOVERNOR GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm governor spring | : 800 : 0.50 | control lever position degree tolerance degree Setting point w/ou Rated speed rpm | : +- 4.0 It bumper spring : 475 |
| WITH GOVERNOR GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm | : 800 : 0.50 : + 0.20 | control lever position degree tolerance degree Setting point w/ou Rated speed rpm rack travel mm Testing: | : +- 4.0 It bumper spring : 475 |
| WITH GOVERNOR GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x | : 800 : 0.50 : + 0.20 | control lever position degree tolerance degree Setting point w/ou Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm | : +- 4.0 It bumper spring : 475 : 5.00 : 475 : 5.50 |
| GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa | : 800 : 0.50 : + 0.20 | control lever position degree tolerance degree Setting point w/ou Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm | : +- 4.0 It bumper spring : 475 : 5.00 : 475 : 5.50 : +- 0.10 |
| GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVERY Rated speed rpm Aneroid pressure | : 800 : 0.50 : + 0.20 : 4.75 : 4.75 | control lever position degree tolerance degree Setting point w/ou Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm | : +- 4.0 It bumper spring : 475 : 5.00 : 475 : 5.50 : +- 0.10 : 100 |
| GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes | : 800 : 0.50 : + 0.20 : 4.75 : AT FULL LOAD STOP : 1250 : 900 : 95.0 | control lever position degree tolerance degree Setting point w/ou Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm | : +- 4.0 It bumper spring : 475 : 5.00 : 475 : 5.50 : +- 0.10 : 100 : > 19.00 : 1250 |

rack travel mm : 11.80 : +- 0.10 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600 900 Pressure hPa

MEASUREMENT

Pressure hPa 600 Rated speed rpm rack travel mm 10.80 : : +- 0.20 Tolerance mm

Rated speed rpm : 600

590 Pressure hPa 11.40 rack travel mm Tolerance mm : + 0.20

Pressure hPa 490 rack travel mm 11.00 : +- 0.20 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

900 hPa 750 Rated speed rpm

Del. quantity

cm3/1000 strokes : 100.0 cm3/1000 strokes : +- 2.0Check tolerance

cm3/1000s.: +- 4.0

Aneroid pressure

hPa Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 85.5 cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. : **←** 3.0

BREAKAWAY

Rack travel in mm: 10.20 Rated speed rpm : 1315 Tolerance 1/min : + 10

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 162.5 cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475 Del. quantity cm3/1000 strokes : 20.5 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s.5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.09.96 : ISO 4113

Combination No. : 0 401 848 829

Injection pump

Pump designation : PE8P110A320LS3865 EP type number : 0 411 818 728

Gövernor

Governer design. : RQ250/1150PA1250 Governer no. : 0 421 801 796

Cust. part No. :

Customer-spec. information Customer : DHI : V2-8NA Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0 x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.00 : +- 0.05 Tolerance mm Check : +- 0.10 tolerance mm

Rack travel in mm: 10.50

: +- 1.50 Tolerance mm

: 8-7-2-6-3 :-5-4-1 Firing order

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : **←** 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.80

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 126.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

| | - † |
|---|--|
| Spreed cm3/1000 strokes : 6.0 | GUIDE SLEEVE POSITION |
| Check tolerance cm3/1000s. : 10.0 | Rated speed rpm : 700 |
| Rated speed rpm : 250 | Rack travel in mm: 15.50 Tolerance mm: +- 1.30 |
| Rack travel in mm : 8.10 | + FULL LOAD DELIVERY AT FULL LOAD STOP |
| Tolerance mm : +- 0.10 Del. quantity | Rated speed rpm : 1150 |
| cm3/1000 strokes : 25.0 cm3/1000 strokes : +- 3.0 | Aneroid pressure |
| Check tolerance cm3/1000s. : +- 6.0 | Del. quantity cm3/1000 strokes : 126.0 |
| Spreed cm3/1000 strokes : 6.0 | cm3/1000 strokes : +- 1.0 Check tolerance |
| Check tolerance cm3/1000s. : 10.0 | cm3/1000s. : +- 4.0 Spreed |
| | cm3/1000 strokes : 6.0 Check tolerance |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | + cm3/1000s. : 10.0 |
| GUIDE SLEEVE TRAVEL | CONTROL LEVER |
| | + |
| Rated speed rpm : 250 guide sleeve | + control lever + position degree : 36.0 |
| travel mm : 1.59 Tolerance mm : + 0.20 | tolerance degree : +- 4.0 |
| Rated speed rpm : 1209 | tontrol lever position degree : 98.0 |
| guide sleeve travel mm : 7.49 | tolerance degree : +- 4.0 |
| Tolerance mm : + 0.15 Rated speed rpm : 1150 | RATED SPEED |
| guide sleeve | + rack travel mm : 10.80 + Rated speed rpm : 1203 + Tolerance 1/min : +- 5 |
| travel mm : 7.00 Tolerance mm : +- 0.10 | + Tolerance 1/min : +- 5 + rack travel mm : 4.00 |
| Rated speed rpm : 411 guide sleeve | Rated speed rpm : 1260 Tolerance 1/min : + 15 |
| travel mm : 5.37 Tolerance mm : +- 0.10 | rack travel mm : 0.50 |
| Rated speed rpm : 510 | Tolerance mm : +- 0.50 Rated speed rpm : 1350 |
| guide sleeve travel mm : 7.00 | ‡ |
| Tolerance mm : +- 0.10 | LOW IDLE |
| Rated speed rpm : 1340 guide sleeve | ‡ |
| travel mm : 11.50 Tolerance mm : +- 0.50 | control lever position degree : 77.0 tolerance degree : +- 4.0 |

control lever position degree : 14.0 tolerance degree : + 4.0 Testing: 250 Rated speed rpm 8.10 rack travel mm : + 0.10 Tolerance mm 2.00 rack travel mm Rated speed rpm 400 Tolerance 1/min : +-20 Rated speed rpm 150 CRT mm min. : > 9.90 TORQUE CONTROL Rated speed rpm 1150 rack travel mm 11.80 : **←** 0.05 Tolerance mm 650 Rated speed rpm 11.80 rack travel mm : + 0.10 Tolerance mm START CUT-OUT : > 100 Rated speed rpm Rated speed rpm : < 170 Check speed 1/min : > 80 Check : < 190 speed 1/min FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 650 Rated speed rpm Del. quantity cm3/1000 strokes : 127.0 cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.6.0 BREAKAWAY

Tolerance 1/min : +-- 5 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : +- 24.0 LOW IDLE Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 25.0 cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

End of test specification sheet

Rack travel in mm :

Rated speed rpm :

10.80

1203

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.09.96 Test oil : ISO 4113

Combination No. : 0 401 848 830

Injection pump

Pump designation : PE8P110A320LS3865 EP type number : 0 411 818 728

Governor

Governer design. : RQV250...1000PA1286

Governer no. : 0 421 814 175

Cust. part No. :

Customer-spec. information

Customer : DHI : V2-8TC Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : ← 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 4.00 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Tolerance : \leftarrow 0.30

Check

tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.00

Tolerance mm : +- 0.05

| | ∔ Toler | ance mm : +- 0.50 |
|--|---------------------------------------|--|
| Del. quantity cm3/1000 strokes : 142.0 | + | |
| cm3/1000 strokes : + 1.0 | | SLEEVE POSITION |
| | T T | speed rpm : 1120 |
| Check tolerance cm3/1000s. : +- 4.0 | | travel in mm : 12.00 ance mm : +- 2.00 |
| Spreed cm3/1000 strokes : 6.0 | · · · · · · · · · · · · · · · · · · · | LOAD DELIVERY AT FULL LOAD STOP |
| Check tolerance cm3/1000s. : 10.0 | + Rated | speed rpm : 1000 |
| Rated speed rpm : 250 | + hPa | id pressure : - quantity |
| Rack travel in mm : 8.20 Tolerance mm : + 0.10 | + cm3/1 | 000 strokes : 142.0 000 strokes : +- 1.0 tolerance |
| Del. quantity cm3/1000 strokes : 25.0 | - cm3/1 + Spree | 000s. : +- 4.0 d |
| cm3/1000 strokes : +- 3.0 Check tolerance | + Check | 000 strokes : 6.0 tolerance |
| <pre>cm3/1000S. : +- 6.0 Spreed cm3/1000 strokes : 6.0</pre> | + | 000s. : 10.0 |
| Check tolerance | + | |
| cm3/1000s. : 10.0 | + CONTR | OL LEVER |
| (B) SETTING OF INJECTION PUM WITH GOVERNOR | P + posit + toler + | ol lever ion degree : 65.0 ance degree : + 4.0 ol lever |
| GUIDE SLEEVE TRAVEL | posit | ion degree : 120.0 ance degree : +- 4.0 |
| Rated speed rpm : 250 guide sleeve | + | SPEED |
| travel mm : 1.31 Tolerance mm : + 0.20 | | travel mm : 12.00 speed rpm : 1045 |
| Rated speed rpm : 1058 guide sleeve | | ance 1/min : +- 5 |
| travel mm : 8.56 Tolerance mm : + 0.15 | + Rated | travel mm : 4.00 speed rpm : 1155 ance 1/min : +- 15 |
| Rated speed rpm : 666 guide sleeve | rack | travel mm : 0.50 |
| travel mm : 5.29 Tolerance mm : +- 0.25 | | ance mm : +- 0.50 speed rpm : 1300 |
| Rated speed rpm : 380 | - Rated | speed (piii . 1300 |
| <pre>guide sleeve travel mm : 3.20</pre> | + | |
| Tolerance mm : +- 0.25 | 1 | |
| Rated speed rpm : 1300 guide sleeve | | ol lever ion degree : 71.0 |
| travel mm : 11.50 | | ance degree : +- 4.0 |

control lever

16.0 position degree : tolerance degree : + 4.0

Testing:

250 Rated speed rpm rack travel mm 8.20 : +- 0.10 Tolerance mm

: 150 Rated speed rpm

CRT mm min. : > 9.60

Rated speed rpm 400

TORQUE CONTROL

Rated speed rpm 1000 rack travel mm 13.00 : +- 0.05 Tolerance mm

Rated speed rpm 650 13.00 rack travel mm : **←** 0.10 Tolerance mm

START CUT-OUT

100 Rated speed rpm : > Rated speed rpm : < 190

Check

speed 1/min : > 80 Check

210 speed 1/min : <

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 650 Rated speed rpm Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. : +- 6.0

BREAKAWAY

12.00 Rack travel in mm : Rated speed rpm : 1045 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 125.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 250

Del. quantity

cm3/1000 strokes : 25.0 cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. : +-6.0

Spreed

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 16.09.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 667

Injection pump

Pump designation : PE6P120A320RS7412

EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1278K

Governer no. : 0 421 815 509

Cust. part No. : 1310221/1

Customer-spec. information

Customer : DAF

: XF 315 M Motor Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 har : +- 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.10 Tolerance mm : + 0.05

| | | † Tolerance mm : + 0.50 |
|--|--|---|
| Del. quantity cm3/1000 strokes | : 327.0 | |
| cm3/1000 strokes | : + 1.0 | GUIDE SLEEVE POSITION |
| Check tolerance | | + Rated speed rpm : 1158 + |
| cm3/1000s. | : +- 4.0 | Rack travel in mm : 12.00 Tolerance mm : + 2.70 |
| Spreed cm3/1000 strokes | : 5.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Check tolerance cm3/1000s. | : 9.0 | Rated speed rpm : 980 |
| Rated speed rpm | : 275 | + Aneroid pressure + hPa : 1500 + Del. quantity |
| Rack travel in m | n: 4.00 | - cm3/1000 strokes : 327.0 - cm3/1000 strokes : +- 1.0 |
| Tolerance mm | | + Check tolerance |
| Del. quantity cm3/1000 strokes | | + cm3/1000s. : + 4.0 + Spreed |
| cm3/1000 strokes Check tolerance | | + cm3/1000 strokes : 5.0 + Check tolerance |
| cm3/1000s. Spreed | : + 6.0 | + cm3/1000s. : 9.0 |
| cm3/1000 strokes Check tolerance | : 8.0 | |
| cm3/1000s. | : 12.0 | CONTROL LEVER |
| (B) SETTING OF IN WITH GOVERNOR | JECTION PUMP | + control lever + position degree : 119.0 + tolerance degree : +- 4.0 + |
| | | |
| GUIDE SLEEVE TRAV | ÆĹ | + RATED SPEED |
| GUIDE SLEEVE TRAV Rated speed rpm guide sleeve | : 275 | + RATED SPEED + rack travel mm : 12.10 + Rated speed rpm : 1050 + Tolerance 1/min : +- 5 |
| Rated speed rpm guide sleeve travel mm | : 275 : 2.04 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 275 : 2.04 : + 0.20 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 |
| Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve | : 275 : 2.04 : +- 0.20 : 1077 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 Tolerance 1/min : +- 15 |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 275 : 2.04 : + 0.20 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 |
| Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve | : 275 : 2.04 : +- 0.20 : 1077 : 10.24 : +- 0.15 : 704 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 |
| Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 275 : 2.04 : + 0.20 : 1077 : 10.24 : + 0.15 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 |
| Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 275 : 2.04 : + 0.20 : 1077 : 10.24 : + 0.15 : 704 : 6.53 : + 0.25 : 400 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1275 LOW IDLE control lever |
| Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 275 : 2.04 : + 0.20 : 1077 : 10.24 : + 0.15 : 704 : 6.53 : + 0.25 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1275 LOW IDLE |
| Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 275 : 2.04 : + 0.20 : 1077 : 10.24 : + 0.15 : 704 : 6.53 : + 0.25 : 400 : 3.92 | rack travel mm : 12.10 Rated speed rpm : 1050 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1145 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1275 LOW IDLE control lever position degree : 72.0 |

| rack travel mm | : 4.00 | + |
|--------------------------------|----------------------|--|
| Tolerance mm | : +- 0.10 | + Pressure hPa : 250 |
| | | + rack travel mm : 8.75 |
| Rated speed rpm | : 175 | + Tolerance mm : +- 0.10 |
| · | | + |
| CRT mm min. | : > 7.00 | } |
| | | + |
| Rated speed rpm | : 300 | |
| | | † FUEL DELIVERY CHARACTERISTICS |
| | | |
| TORQUE CONTROL | | + Aneroid pressure |
| | | + hPa : 1500 |
| Rated speed rpm | : 980 : 13.10 | + Rated speed rpm : 750 |
| rack travel mm Tolerance mm | : 13.10 | + Del. quantity |
| Tolerance mm | : ← 0.05 | + cm3/1000 strokes : 344.0 |
| | | + cm3/1000 strokes : +- 2.0 |
| Rated speed rpm | : 750 | + Check tolerance |
| rack travel mm | | + cm3/1000s. : +- 5.0 |
| Tolerance mm | : +- 0.05 | + Spreed |
| | | + cm3/1000 strokes : 8.0 |
| Rated speed rpm | : 700 | † Check tolerance |
| rack travel mm | : 12.50 | + cm3/1000s. : 12.0 |
| rack travel mm Tolerance mm | : +- 0.10 | + |
| | | + Aneroid pressure |
| Rated speed rpm | : 600 | + hPa : - |
| rack travel mm | : 11.95 | + Rated speed rpm : 600 |
| Tolerance mm | : +- 0.10 | + Del. quantity |
| | | + cm3/1000 strokes : 192.0 |
| Rated speed rpm | : 500 | + cm3/1000 strokes : +- 1.0 |
| rack travel mm | | + Check tolerance |
| Tolerance mm | : +- 0.10 | + cm3/1000s. : +- 4.0 |
| | | + Spreed |
| Rated speed rpm | : 1000 | + cm3/1000 strokes : 8.0 |
| rack travel mm | : 13.10 | + Check tolerance |
| Tolerance mm | : +- 0.10 | + cm3/1000s. : 12.0 |
| | | † |
| | | DDEALAUAY |
| ANEROID/ALTITUDE | | + BREAKAWAY |
| COMPENSATOR TEST | | · † |
| | | Dook tooked in my 12 10 |
| OFFEING | | + Rack travel in mm: 12.10 |
| SETTING | | + Rated speed rpm : 1050 + Tolerance 1/min : +- 5 |
| Detect several name | . 090 | Toterance //min : +- 3 |
| Rated speed rpm | : 980 : 1500 | † |
| Pressure hPa | : 13.10 | Ţ |
| rack travel mm | : +- 0.05 | Ť |
| Tolerance mm | : - 0.05 | <u>†</u> |
| MEASUREMENT | | I |
| MEASUREMENT | | T LOW IDLE |
| Pressure hPa | | I com idet |
| Rated speed rpm | 980 | Rated speed rpm : 275 |
| rack travel mm | · 7.75 | Del. quantity |
| Tolerance mm | : + 0.20 | cm3/1000 strokes : 17.0 |
| IOCEI GINCE IIRII | 0.20 | cm3/1000 strokes : +- 3.0 |
| Rated speed rpm | : 980 | - Check tolerance |
| waten speen ibili | . 200 | $\frac{1}{1000}$ cm3/1000s. : +- 6.0 |
| Pressure hPa | : 650 | Spreed |
| rack travel mm | : 11.50 | cm3/1000 strokes : 8.0 |
| Tolerance mm | : +- 0.05 | 1 0.00 |
| ruce arice and | | 1 |
| | | |

| Check tolerance cm3/1000s. | : | 12.0 | |
|----------------------------|---|------|--|
| | | | |
| | | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Test oil : 25.06.96

Combination No. : 0 402 648 904

Injection pump

Pump designation : PE8P12OA32OLS78O1-1

EP type number : 0 412 628 818

Governor

Governer design. : RQV350...1050PA866

: -9

Governer no. : 0 421 813 906

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : OM442 A Power KW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 110
Tolerance l/h : +- 10.0 min. L/h

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50

Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3 : - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315 : +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

CRT ZERO POSITION

Rack travel in mm: 13.90

Tolerance mm : + 0.10

| | | 1 |
|-------------------------------------|---------------------|---|
| | | Rated speed rpm : 900 |
| BASIC SETTING | | 🗎 guide sleeve |
| | | + travel mm : 5.65 |
| Rated speed rpm | : 500 | † Tolerance mm : +- 0.25 |
| | | - † Rated speed rpm : 1204 |
| Rack travel in m | n: 13.90 | guide sleeve |
| Tolerance mm | ": +- 0.10 | + travel mm : 10.05 |
| | | Tolerance mm : +- 0.25 |
| Del. quantity | | + |
| cm3/1000 strokes | : 202.0 | CUIDE OF FEVE BOOTTON |
| cm3/1000 strokes | : +- 1.0 | GUIDE SLEEVE POSITION |
| CIIDA TOOD STROKES | : 1.0 | Rated speed rpm : 1130 |
| Check tolerance | | Added speed ipin . 1150 |
| cm3/1000S. | : +- 4.0 | Rack travel in mm: 17.25 |
| | | Tolerance mm : +- 0.75 |
| Spreed | r 0 | † |
| cm3/1000 strokes | : 5.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Check tolerance | | . T FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000S. | : 9.0 | Rated speed rpm : 500 |
| | | + Aneroid pressure |
| Rated speed rpm | : 350 | + hPa : 700 |
| | | + Del. quantity |
| | E 30 | + cm3/1000 strokes : 202.0 |
| Rack travel in mm | | + cm3/1000 strokes : +- 1.0 + Check tolerance |
| Tolerance mm Del. quantity | . += 0.10 | + cm3/1000s. : +- 4.0 |
| cm3/1000 strokes | : 19.0 | + Spreed |
| cm3/1000 strokes | | + cm3/1000 strokes : 5.0 |
| Check tolerance | | † Check tolerance |
| cm3/1000s. | : +- 6.0 | + cm3/1000s. : 9.0 |
| Spreed cm3/1000 strokes | : 6.0 | † |
| Check tolerance | : 6.0 | I |
| cm3/1000s. | : 10.0 | CONTROL LEVER |
| | | + |
| | | + control lever |
| (B) SETTING OF IN | NECTION PUMP | + position degree : 121.0 |
| WITH GOVERNOR | | tolerance degree : +- 4.0 |
| | | T RATED SPEED |
| GUIDE SLEEVE TRAV | /EL | + |
| | | rack travel mm : 11.70 |
| Rated speed rpm | : 350 | + Rated speed rpm : 1095 |
| guide sleeve | 4 55 | + Tolerance 1/min : +- 5 |
| travel mm | : 1.55 | |
| Tolerance mm | : - 0.25 | + rack travel mm : 4.00 + Rated speed rpm : 1175 |
| Rated speed rpm | : 1107 | Tolerance 1/min : +- 15 |
| guide sleeve | | + |
| travel mm | : 8.05 | rack travel mm : 0.75 |
| Tolerance mm | : +- 0.25 | + Tolerance mm : + 0.75 |
| Dahad sasad sas | . 570 | Rated speed rpm : 1300 |
| Rated speed rpm guide sleeve | : 570 | I |
| travel mm | : 3.55 | |
| Tolerance mm | : +- 0.25 | LOW IDLE |
| · · · · · · · · · · · · · · · · · · | · | • |

L04

| | | 1 | Chack | |
|------------------------------------|----------------------|---------------------------------------|--------------------------------|---------------|
| | | Ī | Check speed 1/min | : > 80 |
| control lever | | 1 | Check | . , 00 |
| position degree | : 70.0 | 1 | speed 1/min | : < 290 |
| tolerance degree | : +- 4.0 | | , | |
| | | + | | |
| Testing: | | + | FUEL DELIVERY CHA | ARACTERISTICS |
| ~ | 750 | † | • • • | |
| Rated speed rpm | : 350 | † | Aneroid pressure | : 1100 |
| rack travel mm Tolerance mm | : 5.30 : +- 0.10 | <u>†</u> | hPa Rated speed rpm | |
| rocerance min | . +- 0.10 | I | Del. quantity | : 1050 |
| Rated speed rpm | : 100 | 1 | cm3/1000 strokes | : 182.5 |
| | | 1 | cm3/1000 strokes | : +- 1.5 |
| CRT mm min. | : > 6.90 | | Check tolerance | |
| | | | cm3/1000s. | : +- 4.5 |
| Rated speed rpm | : 450 | † | Spreed | - 6 |
| | | † | cm3/1000 strokes | |
| TORQUE CONTROL | | <u> </u> | Check tolerance cm3/1000s. | |
| TORQUE CONTROL | | Ī | CM3/10008. | : 12.0 |
| Rated speed rpm | : 500 | I | Aneroid pressure | |
| rack travel mm | | | hPa | : 1100 |
| Tolerance mm | | + | Rated speed rpm | |
| | | + | Del. quantity | |
| Rated speed rpm | : 1050_ | | cm3/1000 strokes | |
| rack travel mm | : 12.70 | | cm3/1000 strokes | |
| Tolerance mm | : +- 0.10 | | Check tolerance | |
| Dated aread non | . 750 | | cm3/1000s. Spreed | : +- 5.0 |
| Rated speed rpm rack travel mm | • 14 10 | | cm3/1000 strokes | . 80 |
| Tolerance mm | | · · · · · · · · · · · · · · · · · · · | Check tolerance | |
| | | | cm3/1000s. | |
| | | | | |
| ANEROID/ALTITUDE | | | Aneroid pressure | |
| COMPENSATOR TEST | | | hPa | : - |
| | | | Rated speed rpm | : 500 |
| | | | Del. quantity cm3/1000 strokes | . 144.0 |
| MEASUREMENT | | | cm3/1000 strokes | |
| NEADONCHEI41 | | | Check tolerance | |
| Pressure hPa | : 400 | | cm3/1000s. | : +- 4.0 |
| rack travel mm | : −1.50 | | Spreed | |
| Tolerance mm | : +- 0.05 | | cm3/1000 strokes | : 8.0 |
| | , 75 | | Check tolerance | 42.0 |
| Pressure hPa | : 475 | † | cm3/1000s. | : 12.0 |
| rack travel mm | : -0.60 : +- 0.10 | † | | |
| Tolerance mm | . +- 0.10 | I | BREAKAWAY | |
| Pressure hPa | : 925 | 1 | DICAINA | |
| rack travel mm | | 1 | | |
| Tolerance mm | | + | Rack travel in mm | : 11.70 |
| | | | Rated speed rpm | |
| | | + | Tolerance 1/min | : + 5 |
| START CUT-OUT | | † | | |
| Dotod annual ana | . \ 100 | † | | |
| Rated speed rpm Rated speed rpm | | Ī | STARTING FUEL DEL | TVERY |
| raten sheen thu | . \ 210 | I | DIANTING FUEL DEL | TACIVI |
| | | + | Rated speed rpm | : 100 |
| | | • | • | |

Del. quantity cm3/1000 strokes : 230.0 cm3/1000 strokes : +- 10.0 Check tolerance

Check tolerance cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 350 Del. quantity 19.0 cm3/1000 strokes : cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.09.96 : ISO 4113

Combination No. : 0 402 676 835

Injection pump

Pump designation : PE6P12OA32ORS7428 EP type number : 0 412 626 959

Governor

Governer design. : RSV300...850P1A594

: -2

Governer no.

: 0 421 833 479

Cust. part No. : 11031996 P01 v.08.96

Customer-spec. information

Customer : VCE

Motor

: TD 122 KKE

: 237.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

4.50 Prestroke mm

: **←** 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 11.00

Tolerance mm

: +- 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 : -300 Phasing

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. :

BASIC SETTING

700 Rated speed rpm :

| Rack travel in mm: 9.40 Tolerance mm: + 0.05 Del. quantity cm3/1000 strokes: 253.0 cm3/1000 strokes: + 1.0 | - Check tolerance - cm3/1000s. : + 4.0 - Spreed - cm3/1000 strokes : 8.0 - Check tolerance - cm3/1000s. : 11.0 |
|--|---|
| Check tolerance cm3/1000s. : + 4.0 | CONTROL LEVER control lever |
| Spreed cm3/1000 strokes : 8.0 | + position degree : 50.0 + tolerance degree : +- 4.0 + |
| Check tolerance : 11.0 | <pre>control lever position degree : 100.0 tolerance degree : +- 4.0</pre> |
| Rated speed rpm : 330 | RATED SPEED |
| Rack travel in mm : 3.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 45.0 | rack travel mm : 8.40 Rated speed rpm : 870 Tolerance 1/min : +- 5 |
| cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed | rack travel mm : 4.00 Rated speed rpm : 905 Tolerance 1/min : +- 15 |
| cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 | rack travel mm : 0.80 Tolerance mm : + 0.50 Rated speed rpm : 1070 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | LOW IDLE |
| GUIDE SLEEVE POSITION | control lever position degree : 75.0 tolerance degree : +- 4.0 |
| Rated speed rpm : 800 Rack travel in mm : 0.50 | control lever position degree : 25.0 |
| Tolerance mm : + 0.20 | tolerance degree : + 4.0 |
| governor spring pre-tension click setting x : 6.00 | Setting point w/out bumper spring Rated speed rpm : 330 |
| | rack travel mm : 3.40 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + Testing: |
| Rated speed rpm : 700 Aneroid pressure hPa : 1500 Del. quantity | Rated speed rpm : 330 rack travel mm : 3.90 Tolerance mm : +- 0.10 |
| cm3/1000 strokes : 253.0 cm3/1000 strokes : + 1.0 | rack travel mm : 2.00 Rated speed rpm : 420 Tolerance 1/min : +- 30 |

| TORQUE CONTROL | |
|--|---------------------------------------|
| Rated speed rpm rack travel mm Tolerance mm | : 700 : 9.40 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 700 : 9.20 : + 0.10 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 1500 : 9.40 : + 0.05 |
| MEASUREMENT | |
| Pressure hPa Rated speed rpm rack travel mm Tolerance mm | : - : 500 : 7.40 : +- 0.10 |
| Rated speed rpm | : 500 |
| Pressure hPa rack travel mm Tolerance mm | : 550 : 1.70 : + 0.20 |
| Pressure hPa rack travel mm Tolerance mm | : 260 : 0.25 : +- 0.05 |
| FUEL DELIVERY CHA | ARACTERISTICS |
| Aneroid pressure hPa Rated speed rpm | : - : 700 |
| Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance | : 247.0 : +- 1.0 |
| cm3/1000s. Spreed | : + 4.0 |
| cm3/1000 strokes Check tolerance | : 10.0 |
| cm3/1000s. | : 14.0 |

| hPa Rated speed rpm | : : | - 700 | |
|-------------------------------------|-----------|--------------|-------------|
| Del. quantity cm3/1000 strokes | : | 192.0 | |
| cm3/1000 strokes Check tolerance | : +- | 1.0 | |
| cm3/1000s. | : +- | 4.0 | |
| BREAKAWAY | | | |
| Rack travel in mm | | 8.40 | |
| Rated speed rpm Tolerance 1/min | : +- | 870 5 | |
| | | | · |
| STARTING FUEL DEL | IVERY | | |
| Rated speed rpm rack travel mm | | 100 20.50 | |
| Tolerance mm | | 0.50 | |
| Del. quantity cm3/1000 strokes | : | 145.0 | |
| cm3/1000 strokes Check tolerance | | 15.0 | |
| cm3/1000s. | : +- | 19.0 | |
| LOW IDLE | | | |
| Rated speed rpm | : | 330 | |
| Del. quantity | | | |
| cm3/1000 strokes cm3/1000 strokes | : : +- | 45.0 3.0 | |
| Check tolerance cm3/1000s. | | 6.0 | |
| Spreed | ; | | |
| | | E 0 | |
| cm3/1000 strokes | : | 5.0 | |
| | : | 8.0 | |
| cm3/1000 strokes Check tolerance | | | |
| cm3/1000 strokes Check tolerance | | | |

Aneroid pressure

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.09.96 Edition Test oil : ISO 4113

Combination No. : 0 402 736 896

Injection pump

Pump designation : PES6P120A720/3LS7251

: -1

EP type number : 0 412 726 926

Governor

Governer design. : RQV300...1000PA962

: -14K

: 0 421 815 499 Governer no.

Cust. part No. : 51.11103-7497

Customer-spec. information

: MAN Customer

: D2866 LF06 Motor Power KW : 309.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

40 temp. °C Tolerance *C : +- 2.0

: 1 417 413 047 Overflow valve

2.0 Inlet press. bar : : +- 0.1 Tolerance bar

Overflow quantity

min. L/h : 200 Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 13.00 Tolerance mm : +- 0.50

: 6-2-4-1-5-: 3 Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : + - 0.50

Start of delivery blocking

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. 6

BASIC SETTING

Rated speed rpm : 700

| Rack travel in mm Tolerance mm | : 6.50 : + 0.10 | |
|---|---------------------|--|
| Del. quantity cm3/1000 strokes | : 107.0 | |
| cm3/1000 strokes | : + 8.0 | |
| Check tolerance cm3/1000s. | : +- 14.0 | |
| Spreed | | |
| cm3/1000 strokes | : 3.5 | |
| Check tolerance cm3/1000s. | : 6.0 | |
| Rated speed rpm | : 900 | |
| | | |
| Rack travel in mm Tolerance mm | : 13.10 : + 0.05 | |
| Del. quantity cm3/1000 strokes | : 272.0 | |
| cm3/1000 strokes | : +- 1.0 | |
| Check tolerance cm3/1000s. | : +- 4.0 | |
| Spreed cm3/1000 strokes | : 10.0 | |
| Check tolerance cm3/1000s. | : 14.0 | |
| Rated speed rpm | : 300 | |
| Rack travel in mm Tolerance mm | : 5.30 : + 0.10 | |
| Del. quantity cm3/1000 strokes cm3/1000 strokes | : 32.0 : + 3.0 | |
| Check tolerance cm3/1000s. | : +- 6.0 | |
| Spreed cm3/1000 strokes | : 8.0 | |
| Check tolerance cm3/1000s. | : 12.0 | |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | | |
| GUIDE SLEEVE TRAVE | _ | |

| Rated speed rpm guide sleeve travel mm Tolerance mm | : 300 | | |
|--|---------------------|--|--|
| | : 2.65 : ← 0.20 | | |
| Rated speed rpm guide sleeve | : 1056 | | |
| travel mm Tolerance mm | : 8.01 : +- 0.15 | | |
| Rated speed rpm guide sleeve | : 622 | | |
| travel mm Tolerance mm | : 4.85 : +- 0.25 | | |
| Rated speed rpm guide sleeve | : 350 | | |
| travel mm Tolerance mm | : 3.82 : +- 0.25 | | |
| Rated speed rpm guide sleeve | : 1480 | | |
| travel mm Tolerance mm | : 13.50 : + 0.50 | | |
| GUIDE SLEEVE POSI | TION | | |
| Rated speed rpm | : 1290 | | |
| Rack travel in mm Tolerance mm | : 11.70 : + 2.00 | | |
| FULL LOAD DELIVERY AT FULL LOAD STOP | | | |
| Rated speed rpm Aneroid pressure | : 900 | | |
| hPa | : 1200 | | |
| Del. quantity | . 272 0 | | |
| cm3/1000 strokes cm3/1000 strokes | : 272.0 : +- 1.0 | | |
| Check tolerance | · ·- I.U | | |
| cm3/1000s. | : +- 4.0 | | |

Spreed cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. 14.0

CONTROL LEVER

control lever position degree : 285.0 tolerance degree : +- 4.0

RATED SPEED

| rack travel mm | : 11.70 | + MEASUREMENT |
|--------------------|----------------------|--|
| Rated speed rpm | | + |
| Tolerance 1/min | : +- 5 | + Pressure hPa : - |
| rack travel mm | : 4.00 | Rated speed rpm : 900 rack travel mm : 9.00 |
| Rated speed rpm | | + rack travel mm : 9.00 + Tolerance mm : + 0.10 |
| Tolerance 1/min | | + |
| rack travel mm | : 0.50 | Rated speed rpm : 900 |
| Tolerance mm | : +- 0.50 | Pressure hPa : 220 |
| Rated speed rpm | : 1350 | + rack travel mm : 9.45 |
| | | + Tolerance mm : +- 0.05 |
| | | + Pressure hPa : 720 |
| LOW IDLE | | + rack travel mm : 12.00 |
| | | Tolerance mm : + 0.20 |
| control lever | | † <u>_</u> |
| position degree | : 245.0 | T START CUT-OUT |
| tolerance degree | | + |
| | | + Rated speed rpm : > 100 |
| Testing: | | Rated speed rpm : < 240 |
| Rated speed rpm | : 300 | + Check |
| rack travel mm | | + speed 1/min : > 80 |
| Tolerance mm | : +- 0.10 | + Check |
| Rated speed rpm | : 200 | + speed 1/min : < 260 |
| Nated Speed I pill | . 200 | |
| CRT mm min. | : > 7.30 | + FUEL DELIVERY CHARACTERISTICS |
| Rated speed rpm | : 330 | Aneroid pressure |
| | | + hPa : 1200 |
| TORQUE CONTROL | | + Rated speed rpm : 1000 + Del. quantity |
| TONGOL CONTINOL | | + cm3/1000 strokes : 252.0 |
| Rated speed rpm | | + cm3/1000 strokes : +- 3.0 |
| rack travel mm | : 13.10 | + Check tolerance |
| Tolerance mm | : +- 0.05 | - cm3/1000s. : +- 6.0 |
| Rated speed rpm | : 1000 | Aneroid pressure |
| rack travel mm | : 12.70 | + hPa : 1200 |
| Tolerance mm | : + 0.10 | Rated speed rpm : 750 Del. quantity |
| Rated speed rpm | : 750 | + cm3/1000 strokes : 262.0 |
| rack travel mm | : 12.40 | + cm3/1000 strokes : +- 3.0 |
| Tolerance mm | : +- 0.10 | + Check tolerance |
| | | + cm3/1000s. : +- 6.0 |
| ANEROID/ALTITUDE | | Aneroid pressure |
| COMPENSATOR TEST | | + hPa : − |
| | | Rated speed rpm : 500 |
| CETTING | | Del. quantity cm3/1000 strokes : 169.0 |
| SETTING | | cm3/1000 strokes : 109.0 |
| Rated speed rpm | : 900 | Check tolerance |
| Pressure hPa | : 1200 | - cm3/1000s. : +- 4.0 |
| rack travel mm | : 13.10 | † |
| Tolerance mm | : +- 0.05 | BREAKAWAY |
| | | |

Rack travel in mm: 11.70 Rated speed rpm : 1045 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 210.0 cm3/1000 strokes : + 15.0

Check tolerance

: +- 19.0 cm3/1000s.

LOW IDLE

300 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 32.0 cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : + 6.0 Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.09.96 Test oil : ISO 4113

Combination No. : 0 402 846 053

Injection pump

Pump designation : PE6P12OA32ORS8015 EP type number : 0 412 826 016

Governor

Governer design. : RQV300...1050PA1027K

Governer no. : 0 421 815 311

Cust. part No. : 11031702

: -P03 V.09/95

Customer-spec. information Customer : VCE

Motor : TD122KHE

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C :

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.00 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance 'NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm: 10.00

Tolerance mm : +- 0.05

| bel. quantity cm3/1000 strokes : 231.0 Rated speed rpm : 470 cm3/1000 strokes : + 1.0 travel mm : 3.79 Check tolerance 70 cm3/1000s Check tolerance 70 cm3/1000s Spreed 1370 Check tolerance 70 cm3/1000s Check tolerance 70 cm3/1000s Check tolerance 70 cm3/1000s Check tolerance 70 cm3/1000s Collarence mm : + 0.10 70 cm3/1000s Del. quantity 70 cm3/1000s Cm3/1000s strokes : - 3.0 70 cm3/1000s Cm3/1000s strokes : - 3.0 70 cm3/1000s Cm3/1000s strokes : - 3.0 70 cm3/1000s Cm3/1000s strokes : - 3.0 70 cm3/1000s Cm3/1000s strokes : - 3.0 70 cm3/100s Cm3/1000s strokes : - 3.0 70 cm3/100s Cm3/1000s strokes : - 3.0 70 cm3/100s Cm3/1000s strokes : - 3.0 70 cm3/100s Cm3/1000s strokes : - 3.0 70 cm3/100s Cm3/1000s strokes : - 3.0 70 cm3/100s Cm3/1000s strokes : - 3.0 70 cm3/100s Cm3/1000s strokes : - 3.0 70 cm3/100s < | | |
|--|---------------------------------------|--------------------------------------|
| Quide sleeve Control | | + |
| Check tolerance Cm3/1000 strokes + 4.0 Check tolerance Tolerance mm + 0.25 | cm3/1000 strokes : 231.0 | |
| Tolerance mm : + 0.25 | | |
| Check tolerance cm3/1000s : + 4.0 Rated speed rpm : 1370 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50 Check tolerance cm3/1000s : 11.0 GUIDE SLEEVE POSITION Rated speed rpm : 300 Rated speed rpm : 1230 Rack travel in mm : 4.20 Rack travel in mm : 8.50 Tolerance mm : + 2.00 Tolerance mm : + 2.00 Tolerance mm : + 2.00 Tolerance mm <td< td=""><td>cm3/1000 strokes : +- 1.0</td><td></td></td<> | cm3/1000 strokes : +- 1.0 | |
| Spreed S | | + Tolerance mm : +- 0.25 |
| Spreed | | + |
| Spreed cm3/1000 strokes : 8.0 | cm3/1000s. : +- 4.0 | Rated speed rpm : 1370 |
| Check tolerance cm3/1000S. : 11.0 Rated speed rpm : 300 Rack travel in mm : 4.20 Tolerance mm : → 0.10 Del. quantity cm3/1000 strokes : 23.0 cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : ★ 6.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : ★ 6.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : ★ 6.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 231.0 Check tolerance cm3/1000 strokes : 231.0 Check tolerance cm3/1000S. : ★ 4.0 Spreed cm3/1000 strokes : 231.0 Check tolerance cm3/1000S. : ★ 4.0 Spreed cm3/1000 strokes : 231.0 Check tolerance cm3/1000S. : ★ 4.0 Spreed cm3/1000S | | 🕂 guide sleeve |
| Check tolerance cm3/1000s. : 11.0 Rated speed rpm : 300 Rack travel in mm : 4.20 Tolerance mm : + 0.10 bel. quantity cm3/1000 strokes : 23.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Cm3/1000s. cm3/1000s. cm3/1000 Spreed cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000 Spreed cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000s. cm3/100s | Spreed | † travel mm : 13.50 |
| Check tolerance cm3/1000s. : 11.0 Rated speed rpm : 300 Rack travel in mm : 4.20 Tolerance mm : + 0.10 bel. quantity cm3/1000 strokes : 23.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Spreed cm3/1000s. : + 6.0 Cm3/1000s. cm3/1000s. cm3/1000 Spreed cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000 Spreed cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000s. cm3/1000s. cm3/100s | cm3/1000 strokes : 8.0 | Tolerance mm : +- 0.50 |
| Rated speed rpm : 300 | | + |
| Rated speed rpm : 300 Rack travel in mm : 4.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 23.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Rated speed rpm : 1085 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Rated speed rpm : 316 guide sleeve travel mm : - 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Tolerance mm : + 0.25 Tolerance mm : + 0.25 Tolerance mm : + 0.25 Tolerance mm : - 0.25 Tolerance mm : - 0.25 Tolerance mm : - 0.25 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 Tolerance mm : - 0.50 | | |
| Rack travel in mm : 4.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 23.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 1.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER CONTROL LEVER Control lever position degree : 63.0 Tolerance degree : + 4.0 Rated speed rpm : 771 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance nm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Tolerance 1/min : + 5 Tolerance 1/min : + 15 Rated speed rpm : 1165 Tolerance mm : + 0.50 Rated speed rpm : 1050 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance 1/min : + 15 Tolerance 1/min : + 1 | cm3/1000s. : 11.0 | GUIDE SLEEVE POSITION |
| Rack travel in mm : 4.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 23.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 8.0 Check tolerance cm3/1000s. : 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : + 1.0 Check tolerance cm3/1000s. : + 4.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER CONTROL LEVER Control lever position degree : 63.0 Tolerance degree : + 4.0 Rated speed rpm : 771 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance nm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Tolerance 1/min : + 5 Tolerance 1/min : + 15 Rated speed rpm : 1165 Tolerance mm : + 0.50 Rated speed rpm : 1050 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance 1/min : + 15 Tolerance 1/min : + 1 | • | + |
| Rack travel in mm : 4.20 Tolerance mm : + 2.50 | Rated speed rpm : 300 - | Rated speed rpm : 1230 |
| Rack travel in mm : 4.20 Tolerance mm : + 2.50 | · | + |
| Tolerance mm | • | Rack travel in mm : 8.50 |
| Del. quantity | Rack travel in mm: 4.20 | Tolerance mm : +- 2.50 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Tolerance mm : + 0.10 - | |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Del. quantity - | |
| Cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : 5.0 Spreed Cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 231.0 Check tolerance cm3/1000 strokes : 231.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Tolerance 1/min : + 5 Rated speed rpm : 366 guide sleeve travel mm : 0.50 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 0.50 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 0.50 Tolerance 1/min : + 15 | | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000s. : + 6.0 Aneroid pressure hPa | | |
| cm3/1000s. : + 6.0 Aneroid pressure hPa | Check tolerance - | Rated speed rpm : 800 |
| Del. quantity Check tolerance Cm3/1000 strokes : 231.0 Cm3/1000 strokes : 231.0 Cm3/1000 strokes : + 1.0 Check tolerance Cm3/1000 strokes : + 1.0 Check tolerance Cm3/1000 strokes : + 4.0 Spreed Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 8.0 Check tolerance Cm3/1000 strokes : 4.0 Check tolerance Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 strokes Cm3/1000 st | cm3/1000s. : +- 6.0 | |
| Del. quantity Check tolerance Cm3/1000 strokes : 231.0 Cm3/1000 strokes : 231.0 Cm3/1000 strokes : 231.0 Cm3/1000 strokes : + 1.0 Check tolerance Cm3/1000s. : + 4.0 Spreed Cm3/1000s. : + 4.0 Spreed Cm3/1000s. : + 4.0 Check tolerance Cm3/1000s. : + 4.0 Check tolerance Cm3/1000s. : + 4.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 11.0 Check tolerance Cm3/1000s. : 10.0 Check tolerance Cm3/1000s. : 10.0 Check tolerance Cm3/1000s. : 4.0 Check tolerance Cm3/100s. : 4.0 Check tolerance Control | Spreed - | |
| Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : - 0.25 Rated speed rpm : 316 guide sleeve travel mm : - 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 | | Del. quantity |
| Cm3/1000s. : 8.0 | | |
| Check tolerance cm3/1000s. : + 4.0 | | cm3/1000 strokes : +- 1.0 |
| Spread cm3/1000 strokes : 8.0 | • | Check tolerance |
| WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : + 0.50 Tolerance mm : + 0.50 | • | + cm3/1000s. : + 4.0 |
| Check tolerance cm3/1000s. : 11.0 GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Rated speed rpm : 1085 Tolerance 1/min : + 5 Rated speed rpm : 165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : + 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 | (B) SETTING OF INJECTION PUMP - | Spreed |
| Cm3/1000S. : 11.0 | WITH GOVERNOR - | |
| Cm3/1000S. : 11.0 | - | Check tolerance |
| Rated speed rpm : 300 guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 0.25 Rated speed rpm : 316 guide sleeve travel mm : 5.30 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance 1/min : + 15 Tolerance 1/min : + 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50 | | |
| guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : 4.00 Rated speed rpm : 1085 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : 0.50 Tolerance mm : + 0.50 | GUIDE SLEEVE TRAVEL - | 1 |
| guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : 4.00 Rated speed rpm : 1085 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : 0.50 Tolerance mm : + 0.50 | - | 1 |
| guide sleeve travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : 4.00 Rated speed rpm : 1085 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : 0.50 Tolerance mm : + 0.50 | Rated speed rpm : 300 - | |
| Travel mm : 2.09 Tolerance mm : + 0.25 Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 0.50 Tolerance mm : + 0.50 | | CONTROL LEVER |
| Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Rated speed rpm : 165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 | | |
| Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Rated speed rpm : 165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 0.50 Tolerance mm : + 0.50 Tolerance mm : + 0.50 | Tolerance mm : +- 0.25 | control lever |
| Rated speed rpm : 1096 guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Rated speed rpm : 1065 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 0.50 Tolerance mm : + 0.50 | - | |
| guide sleeve travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance 1/min : + 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50 | Rated speed rpm : 1096 | |
| travel mm : 9.66 Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve RATED SPEED travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 guide sleeve - rack travel mm : 4.00 travel mm : 2.30 rack travel mm : 4.00 Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 rack travel mm : 0.50 guide sleeve rack travel mm : 0.50 travel mm : 2.96 Tolerance mm : + 0.50 | | - |
| Tolerance mm : + 0.25 Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 1085 Tolerance 1/min : + 5 Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : 0.50 Tolerance mm : + 0.50 | | - control lever |
| Rated speed rpm : 771 guide sleeve travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 316 guide sleeve travel mm : 2.30 Tolerance mm : + 0.25 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Rated speed rpm : 366 guide sleeve travel mm : 2.96 Tolerance mm : + 0.50 Tolerance mm : + 0.50 | | |
| Rated speed rpm : 771 guide sleeve : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 1085 Rated speed rpm : 1085 Tolerance 1/min : + 5 guide sleeve : 2.30 rack travel mm : 4.00 Tolerance mm : + 0.25 Rated speed rpm : 1165 Rated speed rpm : 366 rack travel mm : 0.50 guide sleeve rack travel mm : 0.50 travel mm : 2.96 Tolerance mm : + 0.50 | ÷ | |
| guide sleeve + 6.39 travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 1085 Rated speed rpm : 1085 guide sleeve - rack travel mm : + 5 travel mm : 2.30 - rack travel mm : 4.00 Tolerance mm : + 0.25 - Rated speed rpm : 1165 Rated speed rpm : 366 - rack travel mm : 0.50 travel mm : 0.50 - Tolerance mm : + 0.50 | Rated speed rpm ; 771 | - |
| travel mm : 6.39 Tolerance mm : + 0.25 Rated speed rpm : 1085 Rated speed rpm : 1085 Tolerance 1/min : + 5 guide sleeve : - 0.25 Tolerance mm : 4.00 Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve - rack travel mm : 0.50 travel mm : 2.96 - Tolerance mm : + 0.50 | | RATED SPEED |
| Tolerance mm : + 0.25 | | |
| Rated speed rpm : 316 Tolerance 1/min : +- 5 guide sleeve rack travel mm : 4.00 Tolerance mm : +- 0.25 Rated speed rpm : 1165 Rated speed rpm : 366 Tolerance 1/min : +- 15 guide sleeve rack travel mm : 0.50 travel mm : 2.96 Tolerance mm : +- 0.50 | Tolerance mm : +- 0.25 | rack travel mm : 9.30 |
| guide sleeve + travel mm : 2.30 + rack travel mm : 4.00 Tolerance mm : + 0.25 + Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve + rack travel mm : 0.50 travel mm : 2.96 + Tolerance mm : + 0.50 | - | |
| guide sleeve + travel mm : 2.30 + rack travel mm : 4.00 Tolerance mm : + 0.25 + Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 guide sleeve + rack travel mm : 0.50 travel mm : 2.96 + Tolerance mm : + 0.50 | Rated speed rpm : 316 | - Tolerance 1/min : +- 5 |
| travel mm : 2.30 + rack travel mm : 4.00 Tolerance mm : + 0.25 + Rated speed rpm : 1165 Tolerance 1/min : + 15 Rated speed rpm : 366 + rack travel mm : 0.50 travel mm : 2.96 + Tolerance mm : + 0.50 | guide sleeve | - |
| Tolerance mm : +- 0.25 | travel mm : 2.30 | |
| Tolerance 1/min : +- 15 Rated speed rpm : 366 | | Rated speed rpm : 1165 |
| guide sleeve + rack travel mm : 0.50 travel mm : 2.96 + Tolerance mm : +- 0.50 | - 1 | |
| guide sleeve + rack travel mm : 0.50 travel mm : 2.96 + Tolerance mm : +- 0.50 | Rated speed rpm : 366 | - |
| travel mm : 2.96 + Tolerance mm : +- 0.50 | | rack travel mm : 0.50 |
| | | |
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| LOW IDLE | |
|---|--|
| control lever position degree tolerance degree | : 70.0 : +- 4.0 |
| control lever position degree tolerance degree | : 19.0 : +- 4.0 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 4.20 : + 0.10 |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 5.80 |
| Rated speed rpm | : 375 |
| TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm | : 800 : 10.00 : ← 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | |
| Rated speed rpm rack travel mm Tolerance mm | : 550 : 10.90 : ← 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : 690 : 10.30 : + 0.15 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 550 : 1500 : 10.90 : + 0.10 |
| MEASUREMENT | |
| Pressure hPa | : - |

| Rated speed rpm rack travel mm Tolerance mm | : 550 : 8.50 : + 0.10 : 550 |
|---|--------------------------------------|
| Pressure hPa rack travel mm Tolerance mm | : 640 : 2.00 : +- 0.10 |
| Pressure hPa rack travel mm Tolerance mm | : 240 : 0.25 : +- 0.05 |
| FUEL DELIVERY CHA | ARACTERISTICS |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : 1500 : 1050 |
| cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. | : 219.0 : +- 3.0 : +- 6.0 |
| Spreed cm3/1000 strokes Check tolerance | : 10.0 |
| cm3/1000s. Aneroid pressure | : 14.0 |
| hPa Rated speed rpm Del. quantity | : 1500 : 550 |
| cm3/1000 strokes cm3/1000 strokes Check tolerance | : 286.5 : +- 4.0 |
| cm3/1000s. | : +- 6.0 |
| Aneroid pressure hPa Rated speed rpm Del. quantity | : - : 550 |
| cm3/1000 strokes cm3/1000 strokes Check tolerance | : 208.0 : + 1.0 |
| cm3/1000s. | : +- 4.0 |
| BREAKAWAY | |
| Rack travel in mm Rated speed rpm Tolerance 1/min | : 1085 |

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
rm3/1000 strokes : 155.0

cm3/1000 strokes : 155.0
cm3/1000 strokes : +- 15.0
Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 23.0

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : + 6.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.09.96 Test oil : ISO 4113

Combination No. : 0 402 846 057

Injection pump

Pump designation : PE6P12OA32ORS8024 EP type number : 0 412 826 025

Governor

Governer design. : RQV250...1100PA1072

: -1K

Governer no. : 0 421 815 988

Cust. part No. : 477814P05 prel.08.96

Customer-spec. information

Customer : VOLVO-TRUCK

Motor : TD74EB Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.40
Tolerance mm : +- 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 7.00Tolerance mm : + 0.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.05

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 204.0

cm3/1000 strokes : + 1.0

| Check tolerance cm3/1000s. : +- 4.0 | Rated speed rpm : 1390 guide sleeve |
|--|---|
| Spreed cm3/1000 strokes : 8.0 | travel mm : 13.50 Tolerance mm : + 0.50 |
| Check tolerance cm3/1000S. : 11.0 | GUIDE SLEEVE POSITION |
| Rated speed rpm : 300 | Rated speed rpm : 1290 |
| Rack travel in mm : 4.60 + Tolerance mm : + 0.10 + Del. quantity | Rack travel in mm : 7.50 Tolerance mm : +- 2.50 |
| cm3/1000 strokes : 23.0 + cm3/1000 strokes : + 2.5 + | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Check tolerance + 5.0 + Spreed + 5.0 | Rated speed rpm : 1100 Aneroid pressure hPa : 1500 |
| cm3/1000 strokes : 5.0 + Check tolerance + | Del. quantity cm3/1000 strokes : 204.0 |
| cm3/1000s. : 8.0 | <pre>cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0</pre> |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | Spreed cm3/1000 strokes : 8.0 |
| GUIDE SLEEVE TRAVEL | Check tolerance cm3/1000s. : 11.0 |
| Rated speed rpm : 300 | |
| guide sleeve travel mm : 2.24 | CONTROL LEVER |
| Tolerance mm : +- 0.25 +- Rated speed rpm : 1176 +- | <pre>control lever position degree : 66.0 tolerance degree : +- 4.0</pre> |
| guide sleeve + travel mm : 10.15 + | control lever |
| Tolerance mm : + 0.25 + Rated speed rpm : 733 + | position degree : 119.0 tolerance degree : +- 4.0 |
| guide sleeve + travel mm : 5.39 + | RATED SPEED |
| Tolerance mm : + 0.25 | rack travel mm : 12.05 Rated speed rpm : 1165 Tolerance 1/min : +- 5 |
| Rated speed rpm : 307 guide sleeve + travel mm : 2.29 | rack travel mm : 4.00 |
| Tolerance mm : + 0.25 | Rated speed rpm : 1255 Tolerance 1/min : +- 15 |
| Rated speed rpm : 357 guide sleeve travel mm : 2.97 | rack travel mm : 0.50 Tolerance mm : + 0.50 |
| Tolerance mm : +- 0.25 | Rated speed rpm : 1320 |
| Rated speed rpm : 390 + guide sleeve + travel mm : 3.22 + | LOW IDLE |
| travel mm : 3.22 + Tolerance mm : + 0.25 + | LOW IDEE |

| control lever position degree tolerance degree | : 72.0 : +- 4.0 |
|---|--|
| control lever position degree tolerance degree | : 18.0 : + 4.0 |
| Testing: | |
| Rated speed rpm rack travel mm Tolerance mm | |
| Rated speed rpm | : 200 |
| CRT mm min. | : > 6.50 |
| Rated speed rpm | : 375 |
| TORQUE CONTROL | |
| Rated speed rpm rack travel mm Tolerance mm | : 1100 : 13.05 : + 0.05 |
| Rated speed rpm rack travel mm Tolerance mm | : 650 : 12.20 : +- 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING ' | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1100 : 1500 : 13.05 : +- 0.05 |
| MEASUREMENT | |
| Pressure hPa Rated speed rpm rack travel mm Tolerance mm | : - : 1100 : 7.00 : + 0.10 |
| Rated speed rpm | : 1100 |
| Pressure hPa rack travel mm Tolerance mm | : 1010 : 5.40 : ← 0.20 |
| 1 20 | |

| Pressure hPa rack travel mm Tolerance mm | : 120 : 0.25 : + 0.05 |
|--|---|
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure | |
| hPa | : 1500 |
| Rated speed rpm | : 650 |
| Del. quantity | . 272 0 |
| cm3/1000 strokes cm3/1000 strokes | : 232.0 : +- 2.5 |
| Check tolerance | : 2.5 |
| cm3/1000s. | : +- 5.0 |
| Spreed | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| cm3/1000 strokes | : 10.0 |
| Check tolerance | |
| cm3/1000s. | : 14.0 |
| Aneroid pressure | |
| hPa | : - |
| Rated speed rpm | : 650 |
| Del. quantity | 405.0 |
| cm3/1000 strokes cm3/1000 strokes | : 105.0 : +- 1.0 |
| Check tolerance | 1.0 |
| cm3/1000s. | : +- 4.0 |
| | |
| BREAKAWAY | |

Rated speed rpm : 1165 Tolerance 1/min : + 5

LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 23.0 cm3/1000 strokes : +- 2.5 Check tolerance cm3/1000s. : +- 5.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 18.09.96 : ISO 4113

Combination No. : 0 402 846 061

Injection pump

Pump designation : PE6P120A320RS8024-1

EP type number : 0 412 826 029

Governor

Governer design. : RQV250...1100PA1072

: -3K

Governer no.

: 0 421 815 979

Cust. part No. : 477950-P05 v. 11.95

Customer-spec. information

Customer : VOLVO-TRUCK

Motor : TD74 EU

: 169.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : ← 2.0 Tolerance °C

Overflow valve : 2 417 413 089

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : + : **←** 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 7.20

: +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

: +- 0.50 tolerance °NW

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.40

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 175.0

cm3/1000 strokes : \leftarrow 1.0

| Check tolerance cm3/1000s. | : +- 4.0 | + Rated speed rpm : 1390 + guide sleeve |
|--|---------------------|--|
| Spreed cm3/1000 strokes | : 8.0 | travel mm : 13.50 Tolerance mm : +- 0.50 |
| Check tolerance cm3/1000s. | : 11.0 | GUIDE SLEEVE POSITION |
| Rated speed rpm | : 300 | Rated speed rpm : 1290 |
| Rack travel in mo Tolerance mm Del. quantity | n: 4.40 : + 0.10 | Rack travel in mm: 7.50 Tolerance mm: + 2.50 |
| cm3/1000 strokes cm3/1000 strokes | | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Check tolerance cm3/1000s. | : +- 5.0 | Rated speed rpm : 1100 Aneroid pressure |
| Spreed cm3/1000 strokes Check tolerance | : 5.0 | + hPa : 1500 + Del. quantity + cm3/1000 strokes : 175.0 |
| cm3/1000s. | : 8.0 | + cm3/1000 strokes : + 1.0 + Check tolerance |
| (B) SETTING OF IN | NJECTION PUMP | + cm3/1000s. : + 4.0 + Spreed + cm3/1000 strokes : 8.0 |
| WITH GOVERNOR | | + cm3/1000 strokes : 8.0 + Check tolerance + cm3/1000s. : 11.0 |
| GUIDE SLEEVE TRAV | /EL | + |
| Rated speed rpm guide sleeve | | CONTROL LEVER |
| travel mm Tolerance mm | : 1.33 : ← 0.25 | t control lever to position degree : 72.0 |
| Rated speed rpm guide sleeve | : 1176 | tolerance degree : +- 4.0 |
| travel mm Tolerance mm | : 10.15 : ← 0.25 | control lever position degree : 118.0 tolerance degree : +- 4.0 |
| Rated speed rpm guide sleeve | | RATED SPEED |
| travel mm Tolerance mm | : 5.39 : + 0.25 | rack travel mm : 10.40 Rated speed rpm : 1165 |
| Rated speed rpm guide sleeve | : 307 | Tolerance 1/min : +- 5 |
| travel mm Tolerance mm | : 2.29 : +- 0.25 | rack travel mm : 4.00 Rated speed rpm : 1240 Tolerance 1/min : +- 15 |
| Rated speed rpm guide sleeve | : 357 | rack travel mm : 0.50 |
| travel mm Tolerance mm | : 2.97 : + 0.25 | Tolerance mm : + 0.50 Rated speed rpm : 1320 |
| Rated speed rpm guide sleeve | : 390 | <u> </u> |
| travel mm Tolerance mm | : 3.22 : + 0.25 | LOW IDLE |

| control lever position degree tolerance degree control lever | : +- 4.0 | Pressure hPa : 120 rack travel mm : 0.25 Tolerance mm : + 0.05 |
|--|--|--|
| position degree tolerance degree | : 19.0 : + 4.0 | FUEL DELIVERY CHARACTERISTICS |
| Testing: | | + Aneroid pressure |
| Rated speed rpm rack travel mm Tolerance mm | : 4.40 | hPa : 1500 Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 159.0 |
| Rated speed rpm | : 200 | + cm3/1000 strokes : +- 2.0 |
| CRT mm min. | : > 6.50 | + Check tolerance + cm3/1000s. : +- 5.0 + Spreed |
| Rated speed rpm | : 375 | cm3/1000 strokes : 10.0 Check tolerance |
| TORQUE CONTROL | | - $+$ cm3/1000s. : 14.0 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : 11.40 : + 0.05 : 650 : 9.10 | Aneroid pressure hPa : - Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 114.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 8.30 | BREAKAWAY |
| ANEROID/ALTITUDE COMPENSATOR TEST | | - + Rack travel in mm : 10.40 Rated speed rpm : 1165 Tolerance 1/min : +- 5 |
| SETTING | | † |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1100 : 1500 : 11.40 : +- 0.10 | LOW IDLE |
| MEASUREMENT | | Rated speed rpm : 300 Del. quantity |
| Pressure hPa | : - | + cm3/1000 strokes : 23.0 + cm3/1000 strokes : +- 2.5 |
| Rated speed rpm rack travel mm | : 1100 : 7.20 | + Check tolerance - cm3/1000s. : +- 5.0 |
| Tolerance mm Rated speed rpm | : + 0.10 : 1100 | Spreed cm3/1000 strokes : 5.0 Check tolerance |
| | | cm3/1000s. : 8.0 |
| Pressure hPa rack travel mm Tolerance mm | : 580 : 3.50 : +- 0.20 | ‡ |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 16.09.96 : ISO 4113

Combination No. : 0 402 846 079

Injection pump

Pump designation : PE6P12OA32ORS8044 EP type number : 0 412 826 036

Governor

Governer design. : RQV300...1050PA1141

Governer no.

: 0 421 814 091

Cust. part No. : 11031994

: -P01 V.08.96

Customer-spec. information Customer

: VCE : TD122KFE Motor Power KW : 297.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 11.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

700 Rated speed rpm :

| | Detect enough non . 1710 |
|--|---|
| Rack travel in mm : 11.30 | + Rated speed rpm : 1310 + guide sleeve |
| Tolerance mm : +- 0.05 | + travel mm : 11.50 |
| | + Tolerance mm : + 0.50 |
| Del. quantity cm3/1000 strokes : 298.0 | İ |
| CIID/ 1000 Sti okes . 270.0 | GUIDE SLEEVE POSITION |
| cm3/1000 strokes : +- 1.0 | + |
| | + Rated speed rpm : 1180 |
| Check tolerance cm3/1000s. : ← 4.0 | Rack travel in mm : 11.10 |
| CIID7 10003 1= 4.0 | Tolerance mm : + 1.30 |
| Spreed | |
| cm3/1000 strokes : 8.0 | FULL LOAD DELYUEDY AT FULL LOAD OTAD |
| Check tolerance | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000s. : 11.0 | Rated speed rpm : 700 |
| | + Aneroid pressure |
| Rated speed rpm : 325 | + hPa : 1500 |
| | + Del. quantity + cm3/1000 strokes : 298.0 |
| Rack travel in mm : 3.80 | + cm3/1000 strokes : +- 1.0 |
| Tolerance mm : + 0.10 | + Check tolerance |
| Del. quantity | + cm3/1000s. : +- 4.0 |
| cm3/1000 strokes : 23.0 | + Spreed + cm3/1000 strokes : 8.0 |
| cm3/1000 strokes : +- 3.0 Check tolerance | + cm3/1000 strokes : 8.0 + Check tolerance |
| cm3/1000s. : +- 6.0 | + cm3/1000s. : 11.0 |
| Spreed | + |
| cm3/1000 strokes : 5.0 Check tolerance | † |
| cm3/1000s. : 8.0 | CONTROL LEVER |
| | + |
| (-) | + control lever |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | <pre>position degree : 65.0 tolerance degree : +- 4.0</pre> |
| WITH GOVERINOR | + toterance degree : 1 4.0 |
| | + control lever |
| GUIDE SLEEVE TRAVEL | position degree : 128.0 |
| Rated speed rpm : 325 | tolerance degree : +- 4.0 |
| guide steeve | RATED SPEED |
| travel mm : 2.03 | + |
| Tolerance mm : ← 0.20 | rack travel mm : 10.30 |
| Rated speed rpm : 1132 | + Rated speed rpm : 1120 + Tolerance 1/min : +- 5 |
| guide sleeve | Toterance minimi. |
| travel mm : 8.52 | rack travel mm : 4.90 |
| Tolerance mm : + 0.15 | + Rated speed rpm : 1190 |
| Rated speed rpm : 1039 | + Tolerance 1/min : + 15 |
| Rated speed rpm : 1039 guide sleeve | rack travel mm : 0.50 |
| travel mm : 7.00 | → Tolerance mm : +- 0.50 |
| Tolerance mm : + 0.25 | + Rated speed rpm : 1280 |
| Rated speed rpm : 520 | İ |
| Rated speed rpm : 520 guide sleeve | I |
| travel mm : 4.67 | LOW IDLE |
| Tolerance 7 : + 0.25 | † |
| | * |

| | | + |
|---|---|--|
| control lever position degree tolerance degree | : 78.0 : +- 4.0 | START CUT-OUT |
| control lever position degree tolerance degree | : 15.0 | + Rated speed rpm : > 100 + Rated speed rpm : > 230 + Check |
| Testing: | . +- 4.0 | + speed 1/min : > 80 + Check |
| Rated speed rpm | : 325 | speed 1/min : > 250 |
| rack travel mm Tolerance mm | : 3.80 : +- 0.10 | FUEL DELIVERY CHARACTERISTICS |
| Rated speed rpm | : 225 | Aneroid pressure hPa : - |
| CRT mm min. | : > 6.00 | Rated speed rpm : 700 Del. quantity |
| Rated speed rpm | : 375 | cm3/1000 strokes : 269.0 cm3/1000 strokes : +- 1.0 Check tolerance |
| TORQUE CONTROL | | cm3/1000s. : + 4.0 + Spreed |
| Rated speed rpm rack travel mm Tolerance mm | : 700 : 11.30 : +- 0.05 | cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. : 14.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 10.45 | Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 188.0 |
| ANEROID/ALTITUDE COMPENSATOR TEST | | cm3/1000 strokes : + 1.0 + Check tolerance + cm3/1000s. : + 4.0 |
| SETTING | | BREAKAWAY |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 1500 : 12,25 : +- 0.25 | Rack travel in mm: 10.30 Rated speed rpm: 1120 Tolerance 1/min: +- 5 |
| MEASUREMENT | | 1 |
| Pressure hPa Rated speed rom rack travel mm Tolerance mm | : - : 500 : 7.80 : + 0.10 | STARTING FUEL DELIVERY Rated speed rpm : 100 |
| Rated speed rpm | : 500 | rack travel mm : 20.50 Tolerance mm : + 0.50 |
| Pressure hPa rack trävel mm Tolerance mm | : 850 : 3.00 : +- 0.20 | + Del. quantity + cm3/1000 strokes : 155.0 + cm3/ U00 strokes : +- 15.0 + Check tolerance + cm3/1000s. : +- 19.0 |
| Pressure hPa rack travel mm Tolerance mm | : 300 : 0.25 : + 0.05 | 17.0 |

LOW IDLE

Rated speed rpm : 325

Del. quantity
cm3/1000 strokes : 23.0
cm3/1000 strokes : +- 3.0

Check tolerance
cm3/1000s. : +- 6.0

Spreed
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 16.09.96

Test oil

: ISO 4113

Combination No. : 0 402 846 080

Injection pump

Pump designation : PE6P12OA32ORS8044 EP type number : 0 412 826 036

Governor

Governer design. : RQV300...1050PA1027K

Governer no.

: 0 421 815 311

Cust. part No. : 11031995

: -P01 V.08/96

Customer-spec. information : VCE Customer

: TD122KHE Motor Power KW : 209.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

: 40 : +- 2.0 temp. °C Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.50 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 11.00 Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

: +- 0.50 tolerance °NW

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 10.00

Tolerance mm : +- 0.05

| Del. quantity | 274.0 | + |
|---|---|---|
| cm3/1000 strokes | | GUIDE SLEEVE POSITION |
| cm3/1000 strokes | : +- 1.0 | Rated speed rpm : 1234 |
| Check tolerance cm3/1000s. | : +- 4.0 | + Rack travel in mm : 9.40 + Tolerance mm : +- 1.30 |
| Spreed cm3/1000 strokes | : 8.0 | FULL LOAD DELIVERY AT FULL LOAD STOP |
| Check tolerance cm3/1000s. | : 11.0 | Rated speed rpm : 800 |
| Rated speed rpm | : 300 | + Aneroid pressure + hPa : 1500 + Del. quantity |
| Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes | : +- 0.10 : 23.0 : +- 3.0 : +- 6.0 | cm3/1000 strokes : 231.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 |
| Check tolerance cm3/1000s. | : 8.0 | CONTROL LEVER |
| (B) SETTING OF IN WITH GOVERNOR | JECTION PUMP | <pre>position degree : 62.0 tolerance degree : +- 4.0 control lever</pre> |
| GUIDE SLEEVE TRAV | | position degree : 116.0 tolerance degree : +- 4.0 |
| Rated speed rpm guide sleeve travel mm Tolerance mm | : 2.01 | RATED SPEED rack travel mm : 9.30 Rated speed rpm : 1085 |
| Rated speed rpm guide sleeve | | Tolerance 1/min : +- 5 |
| travel mm Tolerance mm | | rack travel mm : 4.00 Rated speed rpm : 1155 Tolerance 1/min : +- 15 |
| Rated speed rpm guide sleeve travel mm Tolerance mm | | rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1270 |
| guide sleeve travel mm | : 3.79 | LOW IDLE |
| Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm | : 13.50 | control lever position degree : 77.0 tolerance degree : +- 4.0 |
| | | |

| control lever position degree tolerance degree Testing: | : 23.0 : + 4.0 | | Pressure hPa rack travel mm Tolerance mm | : 240 : 0.25 : + 0.05 |
|---|------------------------------|-----------------|---|-----------------------------|
| Rated speed rpm rack travel mm Tolerance mm | : 4.20 | + | FUEL DELIVERY CHAP | RACTERISTICS |
| Rated speed rpm | : 200 | + | Aneroid pressure hPa | : 1500 |
| CRT mm min. | : > 8.00 | ‡ | Rated speed rpm Del. quantity cm3/1000 strokes | : 1050 |
| Rated speed rpm | : 375 | ‡ | cm3/1000 strokes Check tolerance | : +- 3.0 |
| TORQUE CONTROL | | + | cm3/1000s. Spreed | |
| Rated speed rpm rack travel mm Tolerance mm | : 10.00 | + | cm3/1000 strokes Check tolerance cm3/1000s. | |
| Rated speed rpm rack travel mm Tolerance mm | : 1050 : 10.30 | + + + | Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | |
| Rated speed rpm rack travel mm Tolerance mm | : 550 : 10.90 : + 0.10 | <u> </u> | cm3/1000 strokes Check tolerance cm3/1000s. | : +- 4.0 |
| Rated speed rpm rack travel mm Tolerance mm | : 10.30 | † | Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes | |
| ANEROID/ALTITUDE COMPENSATOR TEST | | + | cm3/1000 strokes Check tolerance cm3/1000s. | |
| SETTING | | ‡ ; | BREAKAWAY | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1500 : 10.90 | † † † ; | Rack travel in mm Rated speed rpm Tolerance 1/min | : 1085 |
| Pressure hPa Rated speed rpm rack travel mm Tolerance mm | • 850 | + | STARTING FUEL DELI | : 100 |
| Rated speed rpm | | + 1 | rack travel mm Tolerance mm | : 20.50 : + 0.50 |
| Pressure hPa rack travel mm Tolerance mm | : 640 : 2.00 : +- 0.10 | + (| Del. quantity cm3/1000 strokes cm3/1000 strokes | |

MO4

Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 300

Del. quantity cm3/1000 strokes : 23.0 cm3/1000 strokes : +- 3.0 Check tolerance

cm3/1000s. : +- 6.0 Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.09.96 Test oil : ISO 4113

Combination No. : 0 401 876 814

Injection pump

Pump designation : PE6P110A320RS3364

EP type number : 0 411 816 798

Governor

Governer design. : RSV300...900P1A625

Governer no.

: 0 421 833 554

Cust. part No. : 11030180

: -P02 v.01/96

Customer-spec. information

Customer : VCE Motor

: TD 63 KFE

Power KW : 120.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C

: + 2.0 Tolerance °C

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity min. L/h : 100 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

M06

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 11.00 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

| Rack travel in mm: 13.20 Tolerance mm: + 0.05 |
|--|
| Del. quantity cm3/1000 strokes : 151.0 |
| cm3/1000 strokes : +- 1.0 |
| Check tolerance cm3/1000s. : +- 3.0 |
| Spreed cm3/1000 strokes : 4.0 |
| Check tolerance cm3/1000s. : 7.5 |
| Rated speed rpm : 300 |
| Rack travel in mm : 6.40 Tolerance mm : + 0.10 Del. quantity |
| cm3/1000 strokes : 26.0 cm3/1000 strokes : +- 2.0 |
| Check tolerance cm3/1000s. : +- 4.5 |
| Spreed cm3/1000 strokes : 3.0 |
| Check tolerance cm3/1000s. : 6.0 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR |
| GUIDE SLEEVE POSITION |
| Rated speed rpm : 800 |
| Rack travel in mm : 0.50 Tolerance mm : +- 0.20 |
| governor spring pre-tension click setting x : 4.50 |
| FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rated speed rpm : 900 Aneroid pressure |
| hPa : 1500 Del. quantity |
| cm3/1000 strokes : 151.0 cm3/1000 strokes : + 1.0 |

| Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. | : +- 3.0 : 4.0 : 7.5 |
|---|-------------------------------|
| CONTROL LEVER | |
| control lever position degree tolerance degree | : 51.0 : +- 4.0 |
| control lever position degree tolerance degree | : 101.0 : +- 4.0 |
| RATED SPEED | |
| rack travel mm Rated speed rpm Tolerance 1/min | : 12.20 : 930 : + 5 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 4.00 : 990 : + 15 |
| rack travel mm Tolerance mm Rated speed rpm | : 0.85 : +- 0.55 : 1150 |
| rack travel mm Rated speed rpm | : 4.00 : 1015 |
| LOW IDLE | |
| control lever position degree tolerance degree | : 76.0 : +- 4.0 |
| control lever position degree tolerance degree | : 24.0 : + 4.0 |
| Setting point w/ou | ıt bumper spring |
| Rated speed rpm rack travel mm | : 300 : 5.90 |
| Testing: | |

Rated speed rpm : 300 rack travel mm : 6.40 Tolerance mm : + 0.10

| rack travel mm Rated speed rpm Tolerance 1/min | : 485 |
|---|------------------------------|
| TORQUE CONTROL | |
| Rated speed rpm rack travel mm Tolerance mm | : 900 : 13.20 : + 0.05 |
| ANEROID/ALTITUDE COMPENSATOR TEST | |
| SETTING | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1500 |
| MEASUREMENT | |
| Pressure hPa Rated speed rpm rack travel mm Tolerance mm | |
| Rated speed rpm | : 550 |
| Pressure hPa rack travel mm Tolerance mm | : 580 : 2.70 : + 0.20 |
| Pressure hPa rack travel mm Tolerance mm | : 90 : 0.25 : ← 0.05 |
| FUEL DELIVERY CHA | ARACTERISTICS |
| Aneroid pressure | • – |
| Rated speed rpm Del. quantity | : 550 |
| cm3/1000 strokes cm3/1000 strokes | |
| Check tolerance cm3/1000S. | : +- 4.0 |
| BREAKAWAY | |
| Rack travel in mm | : 12.20 |

Rated speed rpm : 930

MO8

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.20
Tolerance mm : + 0.30
Del. quantity
cm3/1000 strokes : 103.0
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 14.0

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 26.0
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.5
Spreed
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.09.96 Test oil : ISO 4113

Combination No. : 0 401 876 815

Injection pump

Pump designation : PE6P110A320RS3374 EP type number : 0 411 816 800

Governor

Governer design. : RSV300...900P1A625

Governer no. : 0 421 833 554

Cust. part No. : 11032713

: -P01 v.08/96

Customer-spec. information

Customer : VCE Motor : TD 6

: TD 63 KFE

Power KW : 122.0

Inlet line : 3.1

TEST BENCH REQUIREMENTS

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

: 40 temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 11.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

| Rack travel in mm : 13.20 Tolerance mm : +- 0.05 |
|--|
| Del. quantity cm3/1000 strokes : 151.0 |
| cm3/1000 strokes : + 1.0 |
| Check tolerance cm3/1000s. : + 3.0 |
| Spreed cm3/1000 strokes : 4.0 |
| Check tolerance cm3/1000s. : 7.5 |
| Rated speed rpm : 300 |
| Rack travel in mm : 6.40 Tolerance mm : + 0.10 Del. quantity |
| cm3/1000 strokes : 26.0 cm3/1000 strokes : +- 2.0 |
| Check tolerance cm3/1000s. : +- 4.5 |
| Spreed cm3/1000 strokes : 3.0 |
| Check tolerance cm3/1000S. : 6.0 |
| (B) SETTING OF INJECTION PUMP WITH GÖVERNOR |
| GUIDE SLEEVE POSITION |
| Rated speed rpm : 800 |
| Rack travel in mm : 0.50 Tolerance mm : + 0.20 |
| governor spring pre-tension click setting x : 4.50 |
| FULL LOAD DELIVERY AT FULL LOAD STOP |
| Rated speed rpm : 900 Aneroid pressure |
| hPa : 1500 Del. quantity |
| cm3/1000 strokes : 151.0 cm3/1000 strokes : + 1.0 |

| Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. | : +- 3.0 : 4.0 : 7.5 |
|---|------------------------------|
| CONTROL LEVER | |
| control lever position degree tolerance degree | : 51.0 : + 4.0 |
| control lever position degree tolerance degree | : 101.0 : + 4.0 |
| RATED SPEED | |
| rack travel mm Rated speed rpm Tolerance 1/min | : 12.20 : 930 : + 5 |
| rack travel mm Rated speed rpm Tolerance 1/min | : 4.00 : 990 : +- 15 |
| rack travel mm Tolerance mm Rated speed rpm | : 0.85 : + 0.55 : 1150 |
| rack travel mm Rated speed rpm | : 4.00 : 1015 |
| LOW IDLE | |
| control lever position degree tolerance degree | : 76.0 : +- 4.0 |
| control lever position degree tolerance degree | : 24.0 : +- 4.0 |
| Setting point w/ou | ıt bumper spring |
| Rated speed rpm rack travel mm | : 300 : 5.90 |

Testing:

Rated speed rpm : 300 rack travel mm : 6.40 Tolerance mm : + 0.10

rack travel mm : 2.00 Rated speed rpm : 485 Tolerance 1/min : +-30

TORQUE CONTROL

900 Rated speed rpm rack travel mm 13.20 Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 550 1500 Pressure hPa : 13.20 rack travel mm : +- 0.05 Tolerance mm

MEASUREMENT

Pressure hPa 550 Rated speed rpm 10.20 rack travel mm Tolerance mm : +- 0.10

Rated speed rpm 550

Pressure hPa 580 2.70 rack travel mm : +- 0.20 Tolerance mm

90 Pressure hPa 0.25 rack travel mm : + 0.05Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 550 Del. quantity

cm3/1000 strokes : 87.0 cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.4.0

BREAKAWAY

Rack travel in mm : 12.20 930 Rated speed rpm :

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm 10.20 : +- 0.30 Tolerance mm

Del. quantity

cm3/1000 strokes : 103.0 cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

300 Rated speed rpm Del. quantity

cm3/1000 strokes : 26.0 cm3/1000 strokes : +-2.0

Check tolerance cm3/1000s.

4.5 : +-Spreed

cm3/1000 strokes : Check tolerance

cm3/1000s.: 6.0

End of test specification sheet

3

3.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 25.09.96 Edition Test oil : ISO 4113 Combination No. : 0 402 074 700 Injection pump Pump designation : PES4P110B720RS3383 EP type number : 0 412 014 701 Governor Governer design. : RSV300...1100P1A667 Governer no. : 0 421 833 582 Cust. part No. : 9279831 Customer-spec. information Customer : LIEBHERR : D 924 TI-E A2 Motor : 147.0 Power KW TEST BENCH REQUIREMENTS Inlet line : 4.1 Test oil inlet temp. °C Tolerance °C : +- 2.0 Overflow valve : 1 417 413 049 Inlet press. bar : 1.5 Tolerance bar : + 0.1 Tolerance l/h: +- 10.0 Test nozzle holde : 1 688 901 101 assembly Opening pressure 207.0 har Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : Tolerance bar : +- 1.0 Prestroke mm : 3.20 Tolerance mm : + 0.05 Check tolerance mm : + 0.10 Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 4-2-1-3 Phasing Tolerance Phasing : 0-90-180-270 · + 0.30 Check tolerance °NW : +- 0.50 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 1000 Rack travel in mm : 13.00 Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 189.0 cm3/1000 strokes : +- 1.0

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| Check tolerance | | + |
|---|---------------------|---|
| cm3/1000s. | : +- 3.5 | RATED SPEED |
| Spreed cm3/1000 strokes | : 4.0 | rack travel m Rated speed r Tolerance 1/m |
| Check tolerance cm3/1000s. | : 7.5 | rack travel m |
| Rated speed rpm | : 400 | Tolerance 1/m |
| Rack travel in mm | • 4.00 | Tolerance mm |
| Tolerance mm Del. quantity | : +- 0.10 | rack travel maked speed r |
| cm3/1000 strokes | | + |
| cm3/1000 strokes Check tolerance | : +- 3.0 | <u> </u> |
| cm3/1000s. Spreed | : ← 5.5 | LOW IDLE |
| cm3/1000 strokes | : 4.5 | + |
| Check tolerance cm3/1000s. | : 7.5 | + control lever + position degr + tolerance deg |
| (B) SETTING OF IN | JECTION PUMP | Setting point |
| WITH GOVERNOR | | Rated speed r |
| GUIDE SLEEVE POSI | TION | Testing: |
| governor spring pre-tension click setting x | : 4.00 | Rated speed r rack travel m Tolerance mm |
| FULL LOAD DELIVER | Y AT FULL LOAD STOP | TORQUE CONTRO |
| Rated speed rpm | : 1000 | Rated speed r |
| Aneroid pressure hPa | : 1420 | rack travel m Tolerance mm |
| De quantity cm3/1000 strokes | : 189.0 | Rated speed r |
| cm3/1000 strokes | : + 1.0 | + rack travel m |
| Check tolerance | : + 3.5 | † Tolerance mm |
| Spreed | | Rated speed r |
| cm3/1000 strokes Check tolerance | : 4.0 | rack travel m Tolerance mm |
| cm3/1000s. | : 7.5 | † Toterance min |
| | | ANEROID/ALTIT |
| CONTROL LEVER | | 1 |
| control lever | . 104.0 | SETTING |
| osition degree colerance degree | | + Rated speed r |
| | | + Pressure hPa |

| rack travel mm | : 12.00 |
|--|---|
| Rated speed rpm | : 1040 |
| Rated speed rpm Tolerance 1/min | : +- 5 |
| | - |
| rack travel mm | : 4.00 |
| Rated speed rpm | |
| Tolerance 1/min | : +- 15 |
| Toterance Thirm | . +- 15 |
| Talamana am | 0 55 |
| Tolerance mm | : +- 0.55 |
| rack travel mm | : 4.00 |
| rack travel mm Rated speed rpm | 1095 |
| nated opeca ip | 0,5 |
| | |
| | ···· |
| LOW IDLE | |
| | |
| control lever | |
| position degree | : 78.0 |
| tolerance degree | |
| | |
| Setting point w/ou | nt bumper spring |
| 5 | 400 |
| Rated speed rpm | : 400 |
| rack travel mm | : 3.80 |
| - | |
| Testing: | |
| Rated speed rpm | . 400 |
| nateu speed rpm | : 4.00 |
| rack travel mm | |
| Tolerance mm | : ← 0.10 |
| | |
| TORQUE CONTROL | |
| | |
| Rated speed rpm | : 1000 |
| rack travel mm | : 13.00 |
| | . , |
| | · +- 0.05 |
| Tolerance mm | : +- 0.05 |
| | : +- 0.05 |
| Rated speed rpm | : +- 0.05 : 500 |
| Rated speed rpm rack travel mm | : +- 0.05 : 500 : 13.00 |
| Rated speed rpm | : +- 0.05 : 500 |
| Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : +- 0.10 |
| Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST | : +- 0.05 : 500 : 13.00 : +- 0.10 : 700 : 13.00 : +- 0.10 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST | : +- 0.05 : 500 : 13.00 : ← 0.10 : 700 : 13.00 |

| rack travel mm | : | 1.80 |
|----------------|------|------|
| Tolerance mm | : +- | 0.10 |
| | | |

MEASUREMENT

| Pressure hPa | : | _ |
|-----------------|-----|--------|
| Rated speed rpm | : | 550 |
| Tolerance mm | : + | - 0.10 |

Rated speed rpm : 550

| Pressure hPa | : | 910 |
|----------------|-----|--------|
| rack travel mm | : | 1.50 |
| Tolerance mm | : + | - 0.05 |

| Pressure hPa | ; | 820 |
|----------------|-----|--------|
| rack travel mm | : | 0.40 |
| Tolerance mm | : + | - 0.10 |

FUEL DELIVERY CHARACTERISTICS

Ameroid pressure

| hPa | | | : | 1420 |
|-------|-------|-----|---|------|
| Rated | speed | rpm | : | 500 |

Del. quantity

cm3/1000 strokes : 213.0 cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : \leftarrow 6.0

Aneroid pressure

| hPa | : | 1420 |
|-----------------|---|------|
| Rated speed rpm | : | 700 |
| Del. quantity | | |

Del. quantity cm3/1000 strokes : 203.0

cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 550

Rated speed rpm : 5
Del. quantity

cm3/1000 strokes : 177.0 cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s : +- 3.5

BREAKAWAY

Rack travel in mm: 12.00
Rated speed rpm: 1040
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

| Rated speed rpm rack travel mm | : : | | 100 20.50 |
|-----------------------------------|--------|----|--------------|
| Tolerance mm | : | +- | 0.50 |
| Del. quantity | | | |
| cm3/1000 strokes | - | | |
| cm3/1000 strokes | : | +- | 15.0 |
| Check tolerance | | | |
| cm3/1000S. | : | +- | 19.0 |

LOW IDLE

| Rated speed rpm Del. quantity | : | | 400 |
|----------------------------------|---|----|------|
| cm3/1000 strokes | : | | 20.0 |
| cm3/1000 strokes | : | + | 3.0 |
| Check tolerance | | | |
| cm3/1000S. Spreed | : | +- | 5.5 |
| cm3/1000 strokes | : | | 4.5 |
| Check tolerance | · | | |
| cm3/1000s. | : | | 7.5 |

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 19.09.96 Edition : ISO 4113 Test oil Combination No. : 0 402 074 700B Injection pump Pump designation : PES4P110B720RS3383 EP type number : 0 412 014 701 Governor Governer design. : RSV300...1100P1A667 Governer no. : 0 421 833 582 Cust. part No. : 9279831 Customer-spec. information Customer : LIEBHERR : D 924 TI-E A2 Motor Power KW : 147.0 TEST BENCH REQUIREMENTS Inlet line : 4.1 Test oil inlet 40 temp. °C : +- 2.0 Tolerance °C Overflow valve : 1 417 413 049 1.5 Inlet press. bar : Tolerance bar : + 0.1 Tolerance l/h: +- 10.0 Test nozzle holde assembly : 1 688 901 101 Opening pressure

: 207.0

Tolerance bar : + 1.5

Test lines : 1 680 750 008

x inside diameter: 2.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : +- 1.0 Prestroke mm : 3.20 Tolerance mm : + 0.05 Check tolerance mm : +- 0.10 Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 1-3-4-2 : 0-90-180-270 : +- 0.30 Phasing Tolerance Check tolerance °NW : +- 0.50 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 1000 Rack travel in mm : 13.00 Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 189.0 cm3/1000 strokes : + 1.0

Outside diameter : 6.0

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bar

| Check tolerance cm3/1000s. : + 3.5 | - - rack travel mm : 4.00 - Rated speed rpm : 1095 |
|--|---|
| Spreed cm3/1000 strokes : 4.0 | - - |
| Check tolerance cm3/1000s. : 7.5 | - LOW IDLE |
| Rated speed rpm : 400 | - Setting point w/out bumper spring - |
| | - Rated speed rpm : 400 - rack travel mm : 3.80 |
| Rack travel in mm: 4.00 - Tolerance mm: + 0.10 - Del. quantity - | - - Testing: - |
| cm3/1000 strokes : 20.0 | - Rated speed rpm : 400 |
| cm3/1000 strokes : +- 3.0 | rack travel mm : 4.00 Tolerance mm : +- 0.10 |
| Check tolerance cm3/1000s. : +- 5.5 | - Tolerance mm : +- 0.10 - |
| Spreed cm3/1000 strokes : 4.5 Check tolerance | - TORQUE CONTROL |
| cm3/1000s. : 7.5 | Rated speed rpm : 1000 |
| † | rack travel mm : 13.00 |
| (B) SETTING OF INJECTION PUMP | - Tolerance mm : +- 0.05 |
| WITH GOVERNOR | - Rated speed rpm : 500 |
| + | - rack travel mm : 13.00 |
| | Tolerance mm : + 0.10 |
| GUIDE SLEEVE POSITION | Rated speed rpm : 700 rack travel mm : 13.00 Tolerance mm : +- 0.10 |
| governor spring | Tolerance mm : +- 0.10 |
| pre-tension + (00 | • |
| click setting x : 4.00 | - ANEROID/ALTITUDE |
| FULL LOAD DELIVERY AT FULL LOAD STOP | - COMPENSATOR TEST |
| Rated speed rpm : 1000 | SETTING |
| Aneroid pressure + 1420 + | Rated speed rpm : 550 |
| Del. quantity | Pressure hPa : 1420 |
| cm3/1000 strokes : 189.0 | rack travel mm : 1.80 |
| cm3/1000 strokes : +- 1.0 +- Check tolerance +- | Tolerance mm : +- 0.10 |
| cm3/1000s. : + 3.5 | MEASUREMENT |
| cm3/1000 strokes : 4.0 Check tolerance | Pressure hPa : - Rated speed rpm : 550 |
| cm3/1000s. : 7.5 | Tolerance mm : +- 0.10 |
| # | Rated speed rpm : 550 |
| RATED SPEED | · |
| 12.00 | Pressure hPa : 910 |
| rack travel mm : 12.00 + Rated speed rpm : 1040 + | rack travel mm : 1.20 Tolerance mm : +- 0.05 |
| Tolerance 1/min : +- 5 | |
| 7-1 | Pressure hPa : 820 |
| Tolerance mm : \leftarrow 0.55 | rack travel mm : 0.40 |

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| Tolerance mm | : 0.10 |
|--------------------------------------|----------------------|
| FUEL DELIVERY CHA | RACTERISTICS |
| Aneroid pressure | |
| hPa Rated speed rpm | : 1420 : 500 |
| Del. quantity | . 500 |
| cm3/1000 strokes | : 213.0 |
| cm3/1000 strokes | : +- 3.0 |
| Check tolerance cm3/1000s. | : +- 6.0 |
| Aneroid pressure | |
| hPa | : 1420 |
| Rated speed rpm | : 700 |
| Del. quantity cm3/1000 strokes | : 203.0 |
| cm3/1000 strokes | : + 3.0 |
| Check tolerance cm3/1000s. | : + 6.0 |
| | . , 0.0 |
| Aneroid pressure hPa | : - |
| Rated speed rpm | : 550 |
| Del. quantity | . 477.0 |
| cm3/1000 strokes cm3/1000 strokes | : 177.0 : + 1.0 |
| Check tolerance | |
| cm3/1000s. | : +- 3.5 |
| BREAKAWAY | |
| Rack travel in mm | : 12.00 |
| Rated speed rpm | : 1040 |
| Tolerance 1/min | : ← 5 |
| STARTING FUEL DEL | |
| | |
| Rated speed rpm rack travel mm | : 100 : 20.50 |
| Tolerance mm | : + 0.50 |
| Del. quantity | . 455 0 |
| cm3/1000 strokes cm3/1000 strokes | : 155.0 : +- 15.0 |
| Check tolerance | |
| cm3/1000s. | : +- 19.0 |
| | |

| Rated speed rpm | : | | 400 |
|------------------|---|----|------|
| Del. quantity | | | |
| cm3/1000 strokes | : | | 20.0 |
| cm3/1000 strokes | : | +- | 3.0 |
| Check tolerance | | | |
| cm3/1000s. | : | +- | 5.5 |
| Spreed | | | |
| cm3/1000 strokes | : | | 4.5 |
| Check tolerance | | | |
| cm3/1000s. | : | | 7.5 |
| | | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20.09.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 808

Injection pump

Pump designation : PES6P120A720RS3371 EP type number : 0 412 026 791

Governor

Governer design. : RSV450...1050P5A649

Governer no. : 0 421 833 566

Cust. part No. :

Customer-spec. information Customer : IVECO-FIAT : 8365.26.534 Motor Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 260 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

: +- 0.50 tolerance °NW

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 9.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 126.0

cm3/1000 strokes : +- 1.0

| Check tolerance | + |
|---|---|
| cm3/1000s. : +- 4.0 | control lever position degree : 100.0 |
| Spreed cm3/1000 strokes : 5.0 | RATED SPEED |
| Check tolerance cm3/1000s. : 9.0 | rack travel mm : 8.20 Rated speed rpm : 1075 |
| Rated speed rpm : 450 | Tolerance 1/min : +- 5 |
| | rack travel mm : 4.00 Rated speed rpm : 1110 |
| Rack travel in mm : 4.50 Tolerance mm : + 0.10 | Tolerance 1/min : + 15 |
| Del. quantity cm3/1000 strokes : 20.0 | + rack travel mm : 0.85 + Tolerance mm : + 0.55 |
| cm3/1000 strokes : + 3.0 Check tolerance | Rated speed rpm : 1400 |
| cm3/1000s. : +- 6.0 | rack travel mm : 4.00 |
| Spreed cm3/1000 strokes : 8.0 | Rated speed rpm : 1120 |
| Check tolerance cm3/1000s. : 12.0 | † |
| . 12.0 | + LOW IDLE |
| (B) SETTING OF INJECTION PUMP | + |
| WITH GOVERNOR | + control lever + position degree : 79.0 |
| | Setting point w/out bumper spring |
| GUIDE SLEEVE POSITION | Rated speed rpm : 450 |
| Rated speed rpm : 800 | rack travel mm : 4.00 |
| Rack travel in mm : 0.50 Tolerance mm : +- 0.20 | + Testing: |
| | + Rated speed rpm : 450 |
| governor spring pre-tension | + rack travel mm : 4.50 + Tolerance mm : +- 0.10 |
| click setting x : 3.00 | + |
| | + rack travel mm : 2.00 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 580 Tolerance 1/min : + 30 |
| Rated aread area a 1000 | + |
| Rated speed rpm : 1000 Aneroid pressure | + TORQUE CONTROL |
| hPa : 1200 | + |
| Del. quantity | + Rated speed rpm : 1000 |
| cm3/1000 strokes : 126.0 | + rack travel mm : 9.25 |
| cm3/1000 strokes : +- 1.0 | Tolerance mm : +- 0.05 |
| Check tolerance cm3/1000s. : +- 4.0 | Rated speed rpm : 700 |
| Spreed 4.0 | rack travel mm : 9.30 |
| cm3/1000 strokes : 5.0 | + Tolerance mm : + 0.10 |
| Check tolerance | 1 |
| cm3/1000s. : 9.0 | Rated speed rpm : 320 |
| · | + rack travel mm : 9.80 |
| | Tolerance mm : + 0.20 |
| CONTROL LEVER | Rated speed rpm : 450 |

| rack travel mm | : | 9.30 |
|----------------|------|------|
| Tolerance mm | : +- | 0.20 |

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

| Rated speed rpm | : | 500 |
|-----------------|-----|--------|
| Pressure hPa | : | 1200 |
| rack travel mm | ; | 9.30 |
| Tolerance mm | : 4 | - 0.10 |

MEASUREMENT

| Pressure hPa | : | - |
|-----------------|-----|--------|
| Rated speed rpm | : | 500 |
| rack travel mm | : | 8.50 |
| Tolerance mm | : + | - 0.15 |

Rated speed rpm : 500

| Pressure hPa | : | 425 |
|----------------|-----|--------|
| rack travel mm | : | 8.90 |
| Tolerance mm | : + | - 0.05 |

FUEL DELIVERY CHARACTERISTICS

| Allei O I u pi essui t | Anero | id | pressure |
|------------------------|-------|----|----------|
|------------------------|-------|----|----------|

| THICK CITE PLECOUNCE | | |
|----------------------|-----|--------------|
| hPa | : | 1200 |
| Rated speed rpm | : | 700 |
| Del. quantity | | |
| cm3/1000 strokes | : | 119.0 |
| cm3/1000 strokes | : - | - 3.0 |
| Check tolerance | | |

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

 $cm3/1000 \text{ strokes} : 77.0 \\ cm3/1000 \text{ strokes} : + 1.0$

Check tolerance

cm3/1000s. $: \leftarrow 4.0$

BREAKAWAY

Rack travel in mm : 8.20 Rated speed rpm : 1075 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

| Rated speed rpm | : | 100 |
|------------------|------|------|
| rack travel mm | : | 8.50 |
| Tolerance mm | : +- | 0.30 |
| Del. quantity | | |
| cm3/1000 strokes | : | 85.0 |
| cm3/1000 strokes | : +- | 15.0 |
| Check tolerance | | |
| cm3/1000s. | : +- | 19.0 |
| | | |

LOW IDLE

| Rated speed rpm Del. quantity | : | 450 |
|---|-----------|-------------|
| cm3/1000 strokes cm3/1000 strokes | : : +- | 20.0 3.0 |
| Check tolerance cm3/1000s. | : +- | 6.0 |
| Spreed cm3/1000 strokes Check tolerance | : | 8.0 |
| cm3/1000s. | : | 12.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.09.96 Test oil : ISO 4113

Combination No. : 0 402 676 824

Injection pump

Pump designation : PE6P12OA32ORS7428 EP type number : 0 412 626 959

Governor

Governer design. : RSV300...900P1A594

: -1

Governer no. : 0 421 833 477

Cust. part No. : 11031889 P04 v.06.96

Customer-spec. information

Customer : VCE

Motor

: TD 122 KIE

Power KW

: 284.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : +- 2.0 Tolerance *C

Overflow valve : 2 417 +13 078

Inlet press. bar : 1.5

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure sar : 208.5 Tolerance bar : + 1.5

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Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm: 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.05
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 11.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : \leftarrow 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 1

| | + Aneroid pressure |
|--|---|
| BASIC SETTING | + hPa : 1500 + Del. quantity |
| | + cm3/1000 strokes : 292.0 |
| Rated speed rpm : 700 | + cm3/1000 strokes : +- 1.0 |
| ************************************** | + Check tolerance |
| Rack travel in mm : 10.60 | + cm3/1000s. : +- 4.0 + Spreed |
| Tolerance mm : + 0.05 | + cm3/1000 strokes : 8.0 |
| | - Check tolerance |
| Del. quantity cm3/1000 strokes : 292.0 | + cm3/1000s. : 11.0 |
| cm3/1000 strokes : + 1.0 | I |
| 1.0 | ↓ CONTROL LEVER |
| Check tolerance | + |
| cm3/1000s. : +- 4.0 | control lever |
| | position degree : 50.0 |
| Spreed | tolerance degree : +- 4.0 |
| cm3/1000 strokes : 8.0 | t control lever |
| Check tolerance | position degree : 107.0 |
| cm3/1000s. : 11.0 | tolerance degree : +- 4.0 |
| | + |
| Rated speed rpm : 330 | RATED SPEED |
| | |
| Dock though in many 7 00 | + rack travel mm : 9.60 |
| Rack travel in mm : 3.90 Tolerance mm : + 0.10 | + Rated speed rpm : 935 + Tolerance 1/min : +- 5 |
| Del. quantity | + Tolerance 1/min : +- 5 |
| cm3/1000 strokes : 45.0 | rack travel mm : 4.00 |
| cm3/1000 strokes : +- 3.0 | + Rated speed rpm : 1005 |
| Check tolerance | + Tolerance 1/min : +- 15 |
| cm3/1000s. : + 6.0 | + |
| Spreed | rack travel mm : 0.80 |
| cm3/1000 strokes : 5.0 | + Tolerance mm : + 0.50 |
| Check tolerance | Rated speed rpm : 1130 |
| cm3/1000s. : 8.0 | Ī |
| | |
| (B) SETTING OF INJECTION PUMP | + LOW IDLE |
| NITH GOVERNOR | † |
| | control lever |
| | + position degree : 82.0 |
| GUIDE SLEEVE POSITION | tolerance degree : + 4.0 |
| | + |
| Rated speed rpm : 800 | control lever |
| | + position degree : 25.0 |
| Rack travel in mm: 0.50 | tolerance degree : + 4.0 |
| Tolerance mm : ← 0.20 | Cotting point was burner and |
| dovernor coring | Setting point w/out bumper spring |
| governor spring pre-tension | Rated speed rpm : 330 |
| click setting x : 6.00 | + rack travel mm : 3.40 |
| THE SECTION A COURT | + Control limit |
| | Testing: |
| FULL LOAD DELIVERY AT FULL LOAD STOP | + |
| 700 | + Rated speed rpm : 330 |
| Rated speed rpm : 700 | + rack travel mm : 3.90 |
| | |

| Tolerance mm | : +- 0.10 | + | cm3/1000 strokes | : 10.0 |
|-----------------------------------|------------------|-------------|----------------------------------|-----------------|
| | . 2.00 | † | Check tolerance | 4/ 0 |
| rack travel mm Rated speed rpm | : 2.00 : 420 | 1 | cm3/1000s. | : 14.0 |
| Tolerance 1/min | : +- 30 | I | Aneroid pressure | |
| | • | 1 | hPa | : - |
| | | | Rated speed rpm | : 700 |
| TORQUE CONTROL | | + | Del. quantity | |
| | 700 | † | cm3/1000 strokes | |
| Rated speed rpm | : 700 : 10.60 | † | cm3/1000 strokes | : +- 1.0 |
| rack travel mm Tolerance mm | : +- 0.05 | Ī | Check tolerance cm3/1000s. | : +- 4.0 |
| TOTEL BLICE IIII | 0.05 | Ī | CIID7 10005. | 4.0 |
| Rated speed rpm | | + | | |
| rack travel mm | : 10.10 | + | BREAKAWAY | |
| Tolerance mm | : +- 0.10 | + | | |
| | | † | Rack travel in mo | 0.40 |
| ANEROID/ALTITUDE | | I | Rated speed rpm | : 935 |
| COMPENSATOR TEST | | 1 | Tolerance 1/min | : +- 5 |
| | | 1 | | • |
| | | + | | |
| SETTING | | + | CTARTANC FUEL AFI | THEON |
| Rated speed rpm | : 500 | Í | STARTING FUEL DEL | IVERY |
| Pressure hPa | : 1500 | I | Rated speed rpm | : 100 |
| rack travel mm | | 1 | rack travel mm | |
| Tolerance mm | | 1 | Tolerance mm | |
| | | + | Del. quantity | |
| MEASUREMENT | | + | cm3/1000 strokes | |
| | | + | cm3/1000 strokes | : ← 15.0 |
| Pressure hPa | : - | † | Check tolerance | . 40.0 |
| Rated speed rpm rack travel mm | : 500 | † | cm3/1000s. | : +- 19.0 |
| Tolerance mm | | I | | |
| TOTAL CONTRACT | | 1 | | |
| Rated speed rpm | : 500 | | | |
| Danas - | . 700 | + | LOW IDLE | |
| Pressure hPa rack travel mm | : 700 : 2.90 | 1 | Pated speed nom | : 330 |
| rack travet mm Tolerance mm | : + 0.20 | Ĭ | Rated speed rpm Del. quantity | . 550 |
| . Occidence min | . 0.20 | I | cm3/1000 strokes | : 45.0 |
| Pressure hPa | : 260 | 1 | cm3/1000 strokes | |
| rack travel mm | : 0.25 | + | Check tolerance | |
| Tolerance mm | : +- 0.05 | + | cm3/1000s. | : +- 6.0 |
| | | + | Spreed | |
| | | † | cm3/1000 strokes | : 5.0 |
| ······ | | | Check tolerance cm3/1000s. | : 8.0 |
| FUEL DELIVERY CHA | RACTERISTICS | Į | CIII37 10003. | . 0.0 |
| | | + | | |
| Aneroid pressure | | + | | |
| hPa Botod spood nom | : - : 700 | † | | |
| Rated speed rpm Del. quantity | : 700 | 1 | | |
| cm3/1000 strokes | : 275.0 | I | End of test speci- | fication she |
| cm3/1000 strokes | | 1 | Life of cost specif | Ducton She |
| Check tolerance | | 1 | | |
| cm3/1000s. | : +- 4.0 | + | | |
| Spreed | | + | | |
| | | | | |

sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.09.96 Edition : 19.07.70 : ISO 4113 Test oil

Combination No. : 0 402 846 062

Injection pump

Pump designation : PE6P12OA32ORS8024-1

EP type number : 0 412 826 029

Governor

Governer design. : RQV250...1100PA1072

: -4K

: 0 421 815 978 Governer no.

Cust. part No. : 477951-P05 v. 11.95

Customer-spec. information

Customer : VOLVO-TRUCK Motor : TD74 EU

: 191.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : ← 2.0

Overflow valve : 2 417 413 089

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 3.60 : +- 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 7.60 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.50

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 189.0

cm3/1000 strokes : + 1.0

| Check tolerance cm3/1000s. | : +- 4.0 | Rated speed rpm : 1390 guide sleeve |
|-----------------------------------|--------------------|--|
| Spreed cm3/1000 strokes : | : 8.0 | travel mm : 13.50 Tolerance mm : +- 0.50 |
| Check tolerance | : 11.0 | GUIDE SLEEVE POSITION |
| Rated speed rpm : | : 300 | Rated speed rpm : 1290 |
| Rack travel in mm : | | Rack travel in mm : 7.50 Tolerance mm : +- 2.50 |
| Tolerance mm : Del. quantity | + | |
| cm3/1000 strokes : | | FULL LOAD DELIVERY AT FULL LOAD STOP |
| | : +- 5.0 | Rated speed rpm : 1100 Aneroid pressure |
| Spreed cm3/1000 strokes : | 5.0 | hPa : 1500 Del. quantity |
| Check tolerance cm3/1000s. : | : 8.0 | cm3/1000 strokes : 189.0 cm3/1000 strokes : +- 1.0 Check tolerance |
| (B) SETTING OF INJE | ECTION PUMP | cm3/1000s. : +- 4.0 Spreed |
| WITH GOVERNOR | † | cm3/1000 strokes : 8.0 Check tolerance |
| GUIDE SLEEVE TRAVEL | - + | cm3/1000s. : 11.0 |
| Rated speed rpm : guide sleeve | 250 | CONTROL LEVER |
| travel mm : | 1.33 + + 0.25 + | control lever |
| • • • • | 1176 + | position degree : 66.0 tolerance degree : +- 4.0 |
| guide sleeve travel mm : | 10.15 | control lever |
| | + 0.25 | position degree : 119.0 tolerance degree : +- 4.0 |
| Rated speed rpm : guide sleeve | 733 | RATED SPEED |
| travel mm : Tolerance mm : | 5.39 + 0.25 | rack travel mm : 11.50 Rated speed rpm : 1165 |
| Rated speed rpm : guide sleeve | 307 | Tolerance 1/min : + 5 |
| travel mm : Tolerance mm : | 2.29 | rack travel mm : 4.00 Rated speed rpm : 1250 |
| Rated speed rpm : | 357 | Tolerance 1/min : +- 15 |
| guide sleeve travel mm : | 2.97 | rack travel mm : 0.50 Tolerance mm : + 0.50 |
| | + 0.25 | Rated speed rpm : 1320 |
| Rated speed rpm : guide sleeve | 390 | |
| travel mm : Tolerance mm : | 3.22 + 0.25 | LOW IDLE |

| control lever | : 72.0 | + Pressure hPa : 200 + rack travel mm : 0.25 |
|--|---|--|
| tolerance degree control lever position degree tolerance degree | : 19.0 | Tolerance mm : +- 0.05 |
| Testing: | | FUEL DELIVERY CHARACTERISTICS |
| Rated speed rpm rack travel mm Tolerance mm | : 4.80 | Aneroid pressure hPa : 1500 Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 225.0 |
| Rated speed rpm | : 200 | + cm3/1000 strokes : 223.0 + cm3/1000 strokes : + 2.5 + Check tolerance |
| CRT mm min. | : > 6.70 | + cm3/1000s. : + 5.0 + Spreed |
| Rated speed rpm | : 375 | cm3/1000 strokes : 10.0 Check tolerance |
| TORQUE CONTROL | | + cm3/1000s. : 14.0 |
| Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm | : 12.50 : + 0.05 : 650 : 12.30 | <pre>+ Aneroid pressure + hPa : - + Rated speed rpm : 650 + Del. quantity + cm3/1000 strokes : 115.0 + cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000s. : +- 4.0</pre> |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 10.50 | BREAKAWAY |
| ANEROID/ALTITUDE COMPENSATOR TEST | | - Rack travel in mm : 11.50 - Rated speed rpm : 1165 - Tolerance 1/min : + 5 |
| SETTING | | $\frac{1}{1}$ |
| Rated speed rpm Pressure hPa rack travel mm | : 1100 : 1500 : 12.50 | LOW IDLE |
| Tolerance mm MEASUREMENT | : +- 0.10 | Rated speed rpm : 300 Del. quantity |
| Pressure hPa | • _ | cm3/1000 strokes : 23.0 cm3/1000 strokes : +- 2.5 |
| Rated speed rpm rack travel mm | : 1100 : 7.75 | Check tolerance cm3/1000s. : +- 5.0 |
| Tolerance mm Rated speed rpm | : ← 0.10 : 1100 | + Spreed + cm3/1000 strokes : 5.0 + Check tolerance |
| Pressure hPa | : 750 | cm3/1000s. : 8.0 |
| rack travel mm Tolerance mm | : 4.20 : +- 0.20 | ‡ |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.09.96 : ISO 4113

Combination No. : 0 402 846 063

Injection pump

Pump designation: PE6P120A320RS8024-1

EP type number : 0 412 826 029

Governor

Governer design. : RQV250...1100PA1072

: -5K

Governer no.

: 0 421 815 977

Cust. part No. : 477952-P05 v. 11.95

Customer-spec. information

Customer : VOLVO-TRUCK

Motor

: TD74 EU

Power KW

: 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 089

Inlet press. bar :

Tolerance bar : \leftarrow 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 008

2.0

x inside diameter :

Outside diameter :

x length mm :

600

6.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm 3.60 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 7.60

Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance "NW : **←** 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.60

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 211.0

cm3/1000 strokes : + 1.0

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| | 1 |
|---|--|
| Check tolerance - cm3/1000s. : + 4.0 - | + Rated speed rpm : 1390 |
| CIID/ 10003. ; += 4.0 | + guide sleeve |
| Spreed | travel mm : 13.50 |
| cm3/1000 strokes : 8.0 | Tolerance mm : +- 0.50 |
| | + |
| Check tolerance - | |
| cm3/1000s. : 11.0 - | GUIDE SLEEVE POSITION |
| Rated speed rpm : 300 | † Rated speed rpm : 1290 |
| Nated speed (pill : 500 | Thateu speed (pill : 1270 |
| | Rack travel in mm : 7.50 |
| Rack travel in mm: 4.80 - | Tolerance mm : +- 2.50 |
| Tolerance mm : + 0.10 - | + |
| Del. quantity - | |
| cm3/1000 strokes : 23.0 - | FULL LOAD DELIVERY AT FULL LOAD STOP |
| cm3/1000 strokes : +- 2.5 Check tolerance | TRated speed rpm : 1100 |
| cm3/1000s. : +- 5.0 | Aneroid pressure |
| Spreed - | hPa : 1500 |
| cm3/1000 strokes : 5.0 - | Del. quantity |
| Check tolerance - | cm3/1000 strokes : 211.0 |
| cm3/1000s. : 8.0 - | |
| 7 | Check tolerance |
| (D) OFTING OF THEFTION DUMP | $\frac{1}{1000}$ cm ³ /1000s. : + 4.0 |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | Spreed : 8.0 cm3/1000 strokes : 8.0 |
| WITH GOVERNOR | Check tolerance |
| | cm3/1000s. : 11.0 |
| GUIDE SLEEVE TRAVEL | |
| - | + |
| Rated speed rpm : 250 | |
| guide sleeve | CONTROL LEVER |
| travel mm : 1.33 - Tolerance mm : +- 0.25 - | t |
| Tolerance mm : + 0.25 | position degree : 68.0 |
| Rated speed rpm : 1176 | tolerance degree : +- 4.0 |
| guide sleeve | - seteranos augres t |
| travel mm : 10.15 | control lever |
| Tolerance mm : +- 0.25 | position degree : 120.0 |
| | tolerance degree : +- 4.0 |
| Rated speed rpm : 733 | DATEN COFFE |
| guide sleeve travel mm : 5.39 | RATED SPEED |
| Tolerance mm : +- 0.25 | rack travel mm : 12.60 |
| - October 1888 | - Rated speed rpm : 1165 |
| Rated speed rpm : 307 | - Tolerance 1/min : +- 5 |
| guide sleeve | - |
| travel mm : 2.29 | rack travel mm : 4.00 |
| Tolerance mm : +- 0.25 | Rated speed rpm : 1260 |
| Rated speed rpm : 357 | Tolerance 1/min : +- 15 |
| Rated speed rpm : 357 guide sleeve | r - rack travel mm : 0.50 |
| travel mm : 2.97 | Tolerance mm : + 0.50 |
| Tolerance mm : +- 0.25 | - Rated speed rpm : 1320 |
| + | · · · · · · · · · · · · · · · · · · · |
| Rated speed rpm : 390 | • |
| guide sleeve | LOUITALE |
| travel mm : 3.22 | LOW IDLE |
| Tolerance mm : +- 0.25 | 7 |
| | |

| | | t | | |
|---|---|------------------|---|-----------------------------|
| control lever position degree tolerance degree | | † | Pressure hPa rack travel mm Tolerance mm | : 190 : 0.25 : + 0.05 |
| control lever position degree tolerance degree | | + | | |
| Testing: | | + | FUEL DELIVERY CHA | RACTERISTICS |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 4.80 : + 0.10 | † † † | Aneroid pressure hPa Rated speed rpm Del. quantity | |
| Rated speed rpm | : 200 | ‡ | cm3/1000 strokes cm3/1000 strokes | |
| CRT mm min. | : > 6.70 | Ŧ | Check tolerance cm3/1000s. | : +- 5.0 |
| Rated speed rpm | : 375 | | Spreed cm3/1000 strokes Check tolerance cm3/1000s. | |
| TORQUE CONTROL | | + | Ameroid pressure | |
| Rated speed rpm rack travel mm Tolerance mm | : 1100 : 13.60 : + 0.05 | + | hPa Rated speed rpm Del. quantity cm3/1000 strokes | |
| Rated speed rpm rack travel mm Tolerance mm | : 13.10 | † † † | cm3/1000 strokes Check tolerance cm3/1000s. | |
| Rated speed rpm rack travel mm Tolerance mm | : 300 : 11.50 : + 0.30 | + + + + | BREAKAWAY | |
| ANEROID/ALTITUDE COMPENSATOR TEST | | | Rack travel in mm Rated speed rpm Tolerance 1/min | |
| SETTING | | Ī | | |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 1100 : 1500 : 13.60 : + 0.10 | + + + | LOM IDLE | |
| MEASUREMENT | | + | Rated speed rpm Del. quantity | |
| Pressure hPa Rated speed rpm rack travel mm Tolerance mm | : - : 1100 : 7.75 : + 0.10 | † † † | cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed | |
| Rated speed rpm | : 1100 | ‡ | cm3/1000 strokes Check tolerance | |
| Pressure hPa rack travel mm Tolerance mm | : 885 : 5.50 : + 0.20 | † † † | cm3/1000s. | : 8.0 |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.10.96 : ISO 4113

Combination No. : 9 400 085 343

Injection pump

Pump designation : PES6A95D41ORS2795 EP type number : 9 400 084 020

Governor

Governer design.

: RQV300...1400AB1065

: -18L

Governer no.

: 9 420 080 278

Cust. part No. : 0220747302

Customer-spec. information : MBB Customer : OM 366 Motor : 100.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inler

temp. °C 40 Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

REMARKS

x inside diameter :

x length mm :

(A) INJECTION PUMP SETTING VALUES

3.0

600

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.25 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasina

: -300

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.95

Tolerance $m_{\tilde{b}}$: +- 0.05

Del. quantity

cm3/1000 strokes : 69.5

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

3.5 cm3/1000 strokes :

Check tolerance cm3/1000s. : 8.0

N₀4

| Rated speed rpm : 300 | + Check tolerance |
|--|--|
| nated speed (pin) | + cm3/1000s. : +- 3.0 |
| | + Spreed |
| Rack travel in mm: 7.90 | + cm3/1000 strokes : 3.5 |
| Tolerance mm : + 0.10 | Check tolerance |
| Del. quantity | + cm3/1000s. : 8.0 |
| cm3/1000 strokes : 11.0 cm3/1000 strokes : +- 2.0 | Ť |
| Check tolerance | |
| cm3/1000s. : +- 4.5 | + CONTROL LEVER |
| Spreed | - CONTINUE CEREN |
| cm3/1000 strokes : 5.5 | + control lever |
| Check tolerance | + position degree : 62.0 |
| cm3/1000s. : 9.0 | + tolerance degree : +- 4.0 |
| | † |
| (D) OFFITAIS OF TALLFORTON DIME | control lever |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | position degree : 110.0 tolerance degree : + 4.0 |
| WITH GOVERNOR | toterance degree : +- 4.0 |
| | T RATED SPEED |
| GUIDE SLEEVE TRAVEL | 1 |
| The second secon | rack travel mm : 8.90 |
| Rated speed rpm : 1500 | + Rated speed rpm : 1465 |
| guide sleeve travel mm : 8.55 | + Tolerance 1/min : +- 5 |
| travel mm : 8.55 | + |
| Tolerance mm : + 0.05 | + rack travel mm : 4.00 + Rated speed rpm : 1560 |
| Data disparation 250 | + Rated speed rpm : 156U |
| Rated speed rpm : 750 guide sleeve | Tolerance 1/min : +- 15 |
| travel mm : 4.20 | T rack travel mm · 0.50 |
| travel mm : 4.20 Tolerance mm : + 0.10 | + Tolerance mm : $+$ 0.50 |
| Total differ than | rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1680 |
| Rated speed rpm : 300 | + |
| guide sleeve | + |
| travel mm : 1.05 | + |
| Tolerance mm : +- 0.25 | + LOW IDLE |
| 500 | † |
| Rated speed rpm : 500 | t - control lever |
| guide sleeve travel mm : 2.55 | + position degree : 70.0 |
| Tolerance mm : + 0.25 | tolerance degree : +- 4.0 |
| Total differ that | + |
| | control lever |
| GUIDE SLEEVE POSITION | position degree : 21.0 |
| | tolerance degree : +- 4.0 |
| Rated speed rpm : 1500 | t |
| Death As and the same 47 50 | † Testing: |
| Rack travel in mm: 16.50 | Dotted aread prom . 700 |
| Tolerance mm : + 1.30 | + Rated speed rpm : 300 |
| | rack travel mm : 7.90 Tolerance mm : + 0.10 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Totalice iiiii |
| TOLE LONG PELLYCKI AT TOLE CONG OTOL | Rated speed rpm : 100 |
| Rated speed rpm : 1400 | 1 |
| Aneroid pressure | CRT mm min. :> 8.00 |
| hPa : - | |
| Del. quantity | Rated speed rpm : 555 |
| cm3/1000 strokes : 69.5 | † |
| cm3/1000 strokes : + 1.0 | TOROUE CONTROL |
| • | + TORQUE CONTROL |
| | |

| rack travel mm Tolerance mm | : 1400 : 9.95 : +- 0.05 |
|--------------------------------|-------------------------------|
| Rated speed rpm | : 600 |
| rack travel mm | : 9.95 |
| Tolerance mm | : ← 0.05 |

1/00

START CUT-OUT

Dottod amond and

Rated speed rpm : > 100 Rated speed rpm : < 250

Check

speed 1/min : > 80
Check

speed 1/min : < 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 51.5
cm3/1000 strokes : +- 2.0

cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 8.0

BREAKAWAY

Rack travel in mm : 8.90 Rated speed rpm : 1465 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 14.10 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : + 7.5 Check tolerance cm3/1000s. : + 10.0

LOW IDLE

300 Rated speed rpm : Del. quantity cm3/1000 strokes : 11.0 cm3/1000 strokes : +-2.0 Check tolerance 4.5 cm3/1000s. Spreed cm3/1000 strokes : 5.5 Check tolerance cm3/1000s.9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 04.10.96

Test oil

: ISO 4113

Combination No. : 9 400 087 464

Injection pump

Pump designation : PES6P120A720LS7257

: -10

EP type number : 9 400 087 086

Governor

Governer design. : RQV300...1050PA1029

Governer no.

: 9 420 080 325

Cust. part No. : 0220746202

Customer-spec. information

Customer : MBB

Motor

: OM 447 LA

Power KW

: 257.6

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlec

temp. °C

Tolerance °C

: 40 : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

har

208.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

N07

x inside diameter : 3
x Length mm : 1000 3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

: 4.65 Prestroke mm

: +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00

Firing order : 6-2-4-1-5-

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 237.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.

9.0

Rated speed rpm : 300

| Rack travel in mn Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. | : ← 0.10 : 17.0 : ← 3.0 : ← 6.0 : 8.0 : 12.0 | Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. CONTROL LEVER control lever | : +- 1.0 : +- 4.0 : 5.0 : 9.0 |
|--|---|--|--|
| (B) SETTING OF IN WITH GOVERNOR | MECITOIA FOME | position degree tolerance degree | |
| GUIDE SLEEVE TRAV | 4 | control lever position degree tolerance degree | |
| guide sleeve travel mm Tolerance mm | : 7.80 - : + 0.10 - | - RATED SPEED - rack travel mm - Rated speed rpm | : 12.00 : 1095 |
| Rated speed rpm guide sleeve travel mm | : 700 : 5.45 | - Rateu speed /pii - Tolerance 1/min - rack travel mm | |
| Tolerance mm Rated speed rpm | : + 0.25 | Rated speed rpm Tolerance 1/min | : 1165 |
| guide sleeve travel mm Tolerance mm | : 0.75 : + 0.25 | - rack travel mm - Tolerance mm - Rated speed rpm | : 0.50 : +- 0.50 : 1300 |
| Rated speed rpm guide sleeve | : 500 | - | |
| travel mm Tolerance mm | : 3.55 : +- 0.25 | - LOW IDLE - - | |
| Rated speed rpm guide sleeve travel mm Tolerance mm | | control lever position degree tolerance degree control lever | : +- 4.0 |
| GUIDE SLEEVE POSI | TION | position degree tolerance degree | : +- 4.0 |
| Rated speed rpm | : 1120 | - Testing: - | |
| Rack travel in mm Tolerance mm | | - Rated speed rpm - rack travel mm - Tolerance mm | : 300 : 5.50 : + 0.10 |
| | Y AT FULL LOAD STOP | Rated speed rpm | : 100 |
| Rated speed rpm Aneroid pressure | + | CRT mm min. | |
| hPa | : 1000 | Rated speed rpm | : 325 |

| | | † ^ |
|---|---|--|
| OBOUE CONTROL | | Aneroid pressure |
| ORQUE CONTROL | | hPa : 1000 + Rated speed rpm : 1050 |
| nted speed nom | • 700 | |
| ated speed rpm ack travel mm | . 17.75 | + Del. quantity + cm3/1000 strokes : 227.0 |
| olerance mm | : +- 0.05 | 27.1000 strokes : 227.0 |
| oterance mm | : +- 0.05 | + cm3/1000 strokes : + 2.0 |
| | 4000 | Check tolerance |
| ated speed rpm | : 1050 | cm3/1000s. : +- 5.0 |
| ack travel mm | : 13.05 | Spreed |
| olerance mm | : +- 0.05 | + cm3/1000 strokes : 8.0 |
| | | + Check tolerance |
| ated speed rpm | : 800 | + cm3/1000s. : 12.0 |
| ack travel mm | : 13.35 | + |
| lerance mm | : +- 0.05 | Aneroid pressure |
| | . 0.05 | 1 |
| ted cheed nom | • 950 | t hPa : - Rated speed rpm : 500 |
| ited speed rpm | . 7JU . 17 NE | T Rated Speed rpm : 500 |
| uk travet mm | 13.03 | j bee. quarterey |
| lerance mm | : +- 0.05 | + cm3/1000 strokes : 126.0 |
| | | + cm3/1000 strokes : +- 1.0 |
| | | |
| ROID/ALTITUDE | | + cm3/1000s. : + 4.0 |
| PENSATOR TEST | | Spreed |
| | | + cm3/1000 strokes : 5.0 |
| | | + Check tolerance |
| ring | | + cm3/1000s. : 9.0 |
| | | + |
| ed speed rom | : 500 | + |
| ssure hPa | : 1000 | BREAKAWAY |
| k travel mm | | 1 |
| erance mm | | 1 |
| CEGING IMI | 0.05 | Rack travel in mm: 12.00 |
| CUDEMENT | | |
| SUREMENT | | + Rated speed rpm : 1095 |
| | | † Tolerance 1/min : +- 5 |
| ssure hPa | | † |
| ed speed rpm | : 5 00 | † |
| | • 300 | † |
| | | , ATLANTALIA BULE A TO TO TO TO TO THE TO TH |
| | | + STARTING FUEL DELIVERY |
| ed speed rpm | : 500 | } |
| ed speed rpm | : 500 : 600 | + STARTING FUEL DELIVERY + Rated speed rpm : 100 |
| ted speed rpm | : 500 | Rated speed rpm : 100 |
| ted speed rpm essure hPa ck travel mm | : 500 : 600 : 2.35 | Rated speed rpm : 100 Del. quantity |
| ed speed rpm essure hPa ek travel mm | : 500 : 600 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 |
| ed speed rpm ssure hPa k travel mm erance mm | : 500 : 600 : 2.35 : ← 0.15 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 |
| ed speed rpm ssure hPa k travel mm erance mm | : 500 : 600 : 2.35 : ← 0.15 : 350 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm | : 500 : 600 : 2.35 : ← 0.15 : 350 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance |
| ted speed rpm essure hPa ck travel mm lerance mm essure hPa ck travel mm lerance mm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm erance mm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm erance mm | : 500 : 600 : 2.35 : + 0.15 : 350 : 0.80 : + 0.10 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : + 10.0 Check tolerance |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm erance mm | : 500 : 600 : 2.35 : + 0.15 : 350 : 0.80 : + 0.10 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 |
| ed speed rpm ssure hPa c travel mm erance mm c travel mm erance mm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm erance mm RT CUT-OUT | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 |
| ed speed rpm essure hPa k travel mm erance mm essure hPa k travel mm erance mm RT CUT-OUT ed speed rpm ed speed rpm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm erance mm RT CUT-OUT ed speed rpm ed speed rpm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 : > 100 : < 220 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 17.0 |
| ed speed rpm essure hPa ek travel mm erance mm essure hPa k travel mm erance mm RT CUT-OUT ed speed rpm ed speed rpm ck ed 1/min | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 17.0 cm3/1000 strokes : +- 3.0 |
| essure hPa essure hPa essure hPa essure hPa essure hPa essure hPa essure mm erance mm erance mm erance mm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 : > 100 : < 220 : > 80 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 17.0 cm3/1000 strokes : +- 3.0 Check tolerance |
| ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm erance mm RT CUT-OUT ed speed rpm ed speed rpm | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 : > 100 : < 220 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 17.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 |
| ed speed rpm sure hPa travel mm sure hPa travel mm sure hPa travel mm rance mm T CUT-OUT d speed rpm d speed rpm k d 1/min k | : 500 : 600 : 2.35 : ← 0.15 : 350 : 0.80 : ← 0.10 : > 100 : < 220 : > 80 | Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 190.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 17.0 cm3/1000 strokes : +- 3.0 Check tolerance |

| cm3/1000S. | : | 12.0 | |
|------------|---|-------------|--|
| | | | |
| | | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.10.96 Test oil : ISO 4113

Combination No. : 9 400 087 475

Injection pump

Pump designation : PES5P120A720LS7280 EP type number : 9 400 087 087

Governor

Governer design. : RQV300...950FA1029

Governer no.

: 9 420 080 360

Cust. part No. : 0240742602

Customer-spec. information

Customer : MBB

Motor

: OM 449 LA

Power KW : 220.6

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

temp. C: 40 Tolerance C: + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 1000 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : +- 1.0 : 4.65 : +- 0.05 Prestroke mm Tolerance mm Check tolerance mm : + 0.10 Rack travel in mm : 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 245.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes :

5.0

Check tolerance

cm3/1000s. : 9.0

Rated speed rpm : 300

| Rack travel in mm: 5.30 Tolerance mm: +- 0.10 Del. quantity: cm3/1000 strokes: 12.0 cm3/1000 strokes: +- 3.0 Check tolerance: cm3/1000s.: +- 6.0 Spreed: cm3/1000 strokes: 8.0 Check tolerance: cm3/1000s.: 12.0 | Del. quantity cm3/1000 strokes : 245.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 |
|--|---|
| Cm5710005 12.0 - | CONTROL LEVER |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | control lever position degree : 52.0 tolerance degree : +- 4.0 |
| GUIDE SLEEVE TRAVEL - | control lever |
| Rated speed rpm : 1050 - guide sleeve | position degree : 117.0 tolerance degree : +- 4.0 |
| travel mm : 7.80 - Tolerance mm : +- 0.10 - | RATED SPEED |
| Rated speed rpm : 700 - guide sleeve - | rack travel mm : 12.50 Rated speed rpm : 985 Tolerance 1/min : +- 5 |
| travel mm : 5.45 Tolerance mm : +- 0.25 | - rack travel mm : 4.00 |
| 4 | Rated speed rpm : 1125 |
| Rated speed rpm : 300 - guide sleeve | Tolerance 1/min : +- 15 |
| travel mm : 0.75 | rack travel mm : 0.50 |
| Tolerance mm : +- 0.25 - | Tolerance mm : +- 0.50 Rated speed rpm : 1250 |
| Rated speed rpm : 500 - guide sleeve | |
| travel mm : 3.45 - Tolerance mm : +- 0.25 - | LOW IDLE |
| Rated speed rpm : 1165 | |
| guide sleeve - travel mm : 9.45 | control lever position degree : 83.0 |
| Tolerance mm : + 0.25 | tolerance degree : +- 4.0 |
| GUIDE SLEEVE POSITION | control lever 18.0 |
| - | tolerance degree : +- 4.0 |
| Rated speed rpm : 1120 | - - Testing: |
| Rack travel in mm : 16.50 Tolerance mm : +- 1.30 | - - Rated speed rpm : 300 |
| TO COT GITTOU TIME | rack travel mm : 5.30 Tolerance mm : +- 0.10 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 100 |
| Rated speed rpm : 700 | - |
| Aneroid pressure + 1300 + 1300 | - CRT mm min. :> 9.00 - |
| + | - Rated speed rpm : 325 |
| | |

| | | 1 | Charle talamanaa | |
|-----------------------------------|---------------------|---------------|----------------------------------|----------------------|
| | | Î | Check tolerance cm3/1000s. | : +- 5.0 |
| TORQUE CONTROL | | + | Spreed | · - |
| 6 -4-44 | . 700 | † | cm3/1000 strokes | : 8.0 |
| Rated speed rpm rack travel mm | : 700 : 13.45 | Ī | Check tolerance cm3/1000s. | : 12.0 |
| Tolerance mm | | I | CIII 7 10003. | . 12.0 |
| | | + | Aneroid pressure | |
| Rated speed rpm | : 950 | † | hPa | : - |
| rack travel mm Tolerance mm | | 1 | Rated speed rpm Del. quantity | : 500 |
| OCETATICE TIME | . ** 0.05 | I | cm3/1000 strokes | : 121.0 |
| | | | cm3/1000 strokes | |
| ANEROID/ALTITUDE | | + | Check tolerance | |
| COMPENSATOR TEST | • | † | cm3/1000s. | : +- 4.0 |
| | | Ī | Spreed cm3/1000 strokes | : 5.0 |
| SETTING | | 1 | Check tolerance | . 5.0 |
| = · · = · · • | | + | cm3/1000s. | : 9.0 |
| Rated speed rpm | | + | | |
| Pressure hPa | : 1300 | † | DDEALAHAY | |
| rack travel mm Tolerance mm | | 1 | BREAKAWAY | |
| TOTEL GLICE HAIR | 0.05 | 1 | | |
| MEASUREMENT | | + | Rack travel in mm | |
| D | | ţ | Rated speed rpm | |
| Pressure hPa Rated speed rpm | : - : 500 | Ī | Tolerance 1/min | : +- 5 |
| Rated Speed Pill | . 500 | I | | |
| Rated speed rpm | : 500 | + | | |
| D | . 400 | † | STARTING FUEL DEL | IVERY |
| Pressure hPa rack travel mm | : 600 : 2.45 | Ī | Rated speed rpm | : 100 |
| Tolerance mm | : +- 0.15 | 1 | Del. quantity | . 100 |
| | | + | cm3/1000 strokes | |
| Pressure hPa | : 400 | + | cm3/1000 strokes | : +- 10.0 |
| rack travel mm Tolerance mm | : 1.10 : +- 0.10 | <u>†</u> | Check tolerance cm3/1000s. | : +- 14.0 |
| Toterance likil | . +- 0.10 | I | CHD7 (0003. | . 7- 14.0 |
| | | ‡ | | |
| START CUT-OUT | | † | | |
| Rated speed rpm | : > 100 | I | LOW IDLE | |
| Rated speed rpm | | + | | |
| - 1 | | + | Rated speed rpm | : 300 |
| Check speed 1/min | : > 80 | † | Del. quantity cm3/1000 strokes | : 12.0 |
| Speed 17min Check | . > 00 | I | cm3/1000 strokes | |
| speed 1/min | : < 240 | + | Check tolerance | |
| • | | + | cm3/1000s. | : +- 6.0 |
| FUEL DELIVERY CHA | ADACTEDISTICS | <u> </u> | Spreed cm3/1000 strokes | : 8.0 |
| FUEL DELIVERT CH | JUWOLEKTOLITO | I | Check tolerance | . 0.0 |
| Aneroid pressure | | + | cm3/1000s. | : 12.0 |
| hPa | : 1300 | + | | |
| Rated speed rpm | : 950 | † | | |
| Del. quantity cm3/1000 strokes | : 241.0 | 1 | | |
| cm3/1000 strokes | | 1 | | |
| | | 1 | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.10.96 : ISO 4113

Combination No.

: 9 400 087 483

Injection pump

Pump designation: PES5P120A720LS7280

EP type number : 9 400 087 087

Governor

Governer design.

: RQV300...950PA1029

: -5

Governer no.

: 9 420 080 358

Cust. part No. : 0250744402

Customer—spec. information

Customer

: MBB

Motor

: OM 449 LA

Power KW

: 184.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.1

Test oil inlea

temp. °C

40

Tolerance °C

2.0

Overflow valve

: 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 075

Outside diameter : 8.0

N15

cm3/1000s.

Rated speed rpm :

300

REMARKS

(A) INJECTION PUMP SETTING VALUES

3.0

Set equal delivery quant.

x inside diameter :

x length mm : 1000

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar :

Tolerance bar : +-

Prestroke mm 4.65 : + 0.05Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.25

Tolerance mm : \leftarrow 0.05

Del. quantity

202.5 cm3/1000 strokes :

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance

9.0

| | + Del. quantity |
|------------------------------------|--|
| Rack travel in mm : 5.10 | + cm3/1000 strokes : 202.5 |
| Tolerance mm : +- 0.10 | cm3/1000 strokes : +- 1.0 |
| Del. quantity | + Check tolerance |
| cm3/1000 strokes : 11.0 | + cm3/1000s. : +- 4.0 |
| cm3/1000 strokes : +- 3.0 | + Spreed |
| Check tolerance | + cm3/1000 strokes : 5.0 |
| cm3/1000s. : +- 6.0 | + Check tolerance |
| Spreed | + cm3/1000s. : 9.0 |
| cm3/1000 strokes : 8.0 | + |
| Check tolerance | + |
| cm3/1000s. : 12.0 | + |
| | + CONTROL LEVER |
| | + |
| (B) SETTING OF INJECTION PUMP | + control lever |
| WITH GOVERNOR | + position degree : 52.0 |
| | † tolerance degree : +- 4.0 |
| | |
| GUIDE SLEEVE TRAVEL | control lever |
| 7.050 | position degree : 117.0 |
| Rated speed rpm : 1050 | tolerance degree : +- 4.0 |
| guide sleeve travel mm : 7.80 | TATES COEFS |
| | RATED SPEED |
| Tolerance mm : +- 0.10 | rack travel mm : 11.20 |
| Rated speed rpm : 700 | + rack travel mm : 11.20 + Rated speed rpm : 1005 |
| Rated speed rpm : 700 guide sleeve | + Tolerance 1/min : +- 5 |
| travel mm : 5.45 | I locerance mini |
| Tolerance mm : +- 0.25 | rack travel mm : 4.00 |
| Total de min | Rated speed rpm : 1115 |
| Rated speed rpm : 300 | + Tolerance 1/min : +- 15 |
| guide sleeve | |
| travel mm : 0.75 | rack travel mm : 0.50 |
| Tolerance mm : + 0.25 | + Tolerance mm : + 0.50 |
| | Rated speed rpm : 1250 |
| Rated speed rpm : 500 | <u> </u> |
| guide sleeve | + |
| travel mm : 3.55 | |
| Tolerance mm : +- 0.25 | + LOW IDLE |
| | + |
| Rated speed rpm : 1165 | † |
| guide sleeve | control lever |
| travel mm : 9.45 | + position degree : 80.0 |
| Tolerance mm : +- 0.25 | tolerance degree : +- 4.0 |
| | † |
| COLUMN TO SERVE DOCUMENTS | |
| GUIDE SLEEVE POSITION | + position degree : 15.0 |
| D. b. d d | tolerance degree : +- 4.9 |
| Rated speed rpm : 1120 | Tooting |
| Rack travel in mm : 16.50 | + Testing: |
| Tolerance mm : +- 1.30 | Rated speed rpm : 300 |
| Toterance in 1.30 | rack travel mm : 5.10 |
| | |
| FULL LOAD DELIVERY AT FULL LOAD | |
| TOLL LOAD DELITERY AT TOLL LOAD | Rated speed rpm : 100 |
| Rated speed rpm : 600 | 1 |
| Aneroid pressure | → CRT mm min. :> 8.00 |
| hPa : 1000 | <u> </u> |
| | Rated speed rpm : 325 |
| | |

| | | + Check tolerance |
|------------------------------------|----------------------|--|
| TORQUE CONTROL | | + cm3/1000s. : +- 5.0 + Spreed |
| TONGOE CONTROL | | cm3/1000 strokes : 8.0 |
| Rated speed rpm | : 600 | + Check tolerance |
| rack travel mm | | + cm3/1000s. : 12.0 |
| Tolerance mm | : +- 0.05 | + |
| | 0.50 | + Aneroid pressure |
| Rated speed rpm | : 950 | + hPa : - |
| rack travel mm Tolerance mm | : 12.25 : +- 0.05 | + Rated speed rpm : 500 + Del. quantity |
| roterance min | . +- 0.05 | - cm3/1000 strokes : 116.0 |
| | | - + cm3/1000 strokes : +- 1.0 |
| ANEROID/ALTITUDE | | + Check tolerance |
| COMPENSATOR TEST | | + cm3/1000s. : + 4.0 |
| | | + Spreed |
| | | + cm3/1000 strokes : 5.0 |
| SETTING | | + Check tolerance |
| | 500 | + cm3/1000s. : 9.0 |
| Rated speed rpm | | † |
| Pressure hPa | | DDEALAUAY |
| rack travel mm Tolerance mm | : +- 0.05 | † BREAKAWAY |
| roterance mm | , r- 0.03 | Ţ |
| MEASUREMENT | | Rack travel in mm: 11.20 |
| | | + Rated speed rpm : 1005 |
| Pressure hPa | : - | Tolerance 1/min : +- 5 |
| Rated speed rpm | : 500 | + |
| | | + |
| Rated speed rpm | : 500 | CTARTING FUEL ASSISTANCE |
| Danas hDa | . 400 | + STARTING FUEL DELIVERY |
| Pressure hPa rack travel mm | : 600 : 2.00 | Rated speed rpm : 100 |
| Tolerance mm | | Del. quantity |
| TOCET di ICC IIIII | 0.10 | cm3/1000 strokes : 250.0 |
| Pressure hPa | : 360 | + cm3/1000 strokes : + 10.0 |
| rack travel mm | : 0.55 | - Check tolerance |
| Tolerance mm | : +- 0.05 | + cm3/1000s. : +- 14.0 |
| | | + |
| | | - † |
| START CUT-OUT | | † |
| Dotod opend pro | : > 100 | LOW IDLE |
| Rated speed rpm Rated speed rpm | | I rom tore |
| waten sheen thu | . \ | T Rated speed rpm : 300 |
| Check | | Del. quantity |
| speed 1/min | : > 80 | + cm3/1000 strokes : 11.0 |
| Check | · - | + cm3/1000 strokes : +- 3.0 |
| speed 1/min | : < 240 | + Check tolerance |
| | | + cm3/10GOS. : +- 6.0 |
| | | - + Spreed |
| FUEL DELIVERY CHA | ARACTERISTICS | + cm3/1000 strokes : 8.0 |
| A • 1 | | + Check tolerance |
| Aneroid pressure | | + cm3/1000s. : 12.0 |
| hPa | : 1000 : 950 | I |
| Rated speed rpm Del. quantity | , 7JU | I |
| cm3/1000 strokes | : 206.0 | 1 |
| cm3/1000 strokes | | 1 |
| CIII TOUCH SCHOKES | | |

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.10.96 : ISO 4113

Combination No. : 9 400 087 484

Injection pump

Pump designation : PES5P120A720LS7280 EP type number : 9 400 087 087

Governor

Governer design. : RQV300...1050PA1114

Governer no. : 9 420 080 361

Cust. part No. : 0240747602

Customer-spec. information Customer : MBB

: OM 449 A Motor Power KW

: 184.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.65 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 12.30 Tolerance mm : \leftarrow 0.10

Del. quantity cm3/1000 strokes : 194.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed cm3/1000 strokes : 5.0

Check tolerance 9.0 cm3/1000s.

Rated speed rpm : 300

| Rack travel in mm: 5.30 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 12.0 cm3/1000 strokes: + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000 strokes: 8.0 Check tolerance | Del. quantity cm3/1000 strokes : 194.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 |
|---|---|
| cm3/1000s. : 12.0 | CONTROL LEVER |
| (B) SETTING OF INJECTION PUMP WITH GOVERNOR | control lever position degree : 55.0 tolerance degree : +- 4.0 control lever |
| GUIDE SLEEVE TRAVEL | position degree : 121.0 tolerance degree : + 4.0 |
| Rated speed rpm : 1050 guide sleeve travel mm : 7.80 | RATED SPEED |
| Tolerance mm : + 0.10 Rated speed rpm : 700 | + rack travel mm : 11.10 + Rated speed rpm : 1110 + Tolerance 1/min : + 5 |
| guide sleeve travel mm : 5.45 Tolerance mm : +- 0.25 | + rack travel mm : 4.00 + Rated speed rpm : 1170 + Tolerance 1/min : + 15 |
| Rated speed rpm : 300 guide sleeve travel mm : 0.75 Tolerance mm : +- 0.25 | rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300 |
| Rated speed rpm : 500 guide sleeve | ± |
| travel mm : 3.55 Tolerance mm : + 0.25 | LOW IDLE |
| Rated speed rpm : 1165 guide sleeve travel mm : 9.45 Tolerance mm : + 0.25 | control lever position degree : 82.0 tolerance degree : + 4.0 control lever |
| GUIDE SLEEVE POSITION | <pre>position degree : 17.0 tolerance degree : +- 4.0</pre> |
| Rated speed rpm : 1120 | Testing: |
| Rack travel in mm : 16.50 Tolerance mm : + 1.30 | Rated speed rpm : 300 rack travel mm : 5.30 Tolerance mm : + 0.10 |
| FULL LOAD DELIVERY AT FULL LOAD STOP | Rated speed rpm : 100 |
| Rated speed rpm : 600 Aneroid pressure | CRT mm min. :> 8.50 |
| hPa : 800 | Rated speed rpm : 325 |

| TORQUE CONTROL | | FUEL DELIVERY CHARACTERISTICS |
|---|-------------------------------|---|
| Rated speed rpm rack travel mm Tolerance mm | : 600 : 12.30 : + 0.10 | Aneroid pressure hPa : 1500 Rated speed rpm : 1050 |
| Rated speed rpm rack travel mm Tolerance mm | : 12.10 | <pre>Del. quantity cm3/1000 strokes : 196.0 cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0</pre> |
| Rated speed rpm rack travel mm Tolerance mm | : 13.10 | + Spreed + cm3/1000 strokes : 8.0 + Check tolerance |
| Rated speed rpm rack travel mm Tolerance mm | : 12.80 | + cm3/1000s. : 12.0 + Aneroid pressure + hPa : 1500 |
| Rated speed rpm rack travel mm Tolerance mm | : 12.50 | + Rated speed rpm : 800 + Del. quantity + cm3/1000 strokes : 220.5 + cm3/1000 strokes : + 2.0 Check tolerance |
| ANEROID/ALTITUDE COMPENSATOR TEST | | cm3/1000s. : +- 5.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 |
| MEASUREMENT | | + Aneroid pressure |
| Pressure hPa rack travel mm Tolerance mm | : 360 : -1.50 : + 0.10 | hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 121.0 |
| Pressure hPa rack travel mm Tolerance mm | : 500 : -0.50 : +- 0.10 | cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed |
| Pressure hPa rack travel mm Tolerance mm | | cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 |
| Pressure hPa rack travel mm Tolerance mm | : 1200 : 0.60 : ← 0.10 | BREAKAWAY Rack travel in mm : 11.10 |
| START CUT-OUT | | Rated speed rpm : 1110 Tolerance 1/min : +- 5 |
| Rated speed rpm Rated speed rpm | | STARTING FUEL DELIVERY |
| Check speed 1/min Check | : > 80 | + Rated speed rpm : 100 + Del. quantity |
| speed 1/min | : < 260 | cm3/1000 strokes : 250.0 cm3/1000 strokes : +- 10.0 |

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 300

Del. quantity cm3/1000 strokes : 12.0

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : **←** 6.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s.12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.10.96 : ISO 4113

Combination No. : 9 400 087 485

Injection pump

Pump designation : PES5P120A720LS7280

EP type number : 9 400 087 087

Governor

Governer design. : RQV300...950PA1029

: -7

Governer no.

: 9 420 080 363

Cust. part No. : 0250744502

Customer-spec. information

Customer

: MBB

Motor

: OM 449 LA

Power KW

: 220.7

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

REMARKS

x inside diameter: 3.0 x Length mm : 1000

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.65 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.19

Rack travel in mm : 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.75

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 263.5

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

cm3/1000 strokes :

5.0

Check tolerance

cm3/1000s.

9.0

Rated speed rpm :

300

| | | + Del. quantity | |
|---|----------------------|---|--------------------|
| Rack travel in m | | + cm3/1000 strokes | |
| Tolerance mm | : +- 0.10 | + cm3/1000 strokes | : + 1.0 |
| Del. quantity | . 47.0 | + Check tolerance | |
| cm3/1000 strokes | | + cm3/1000s. | : ← 4.0 |
| cm3/1000 strokes | : - 3.0 | Spreed | |
| Check tolerance cm3/1000s. | : +- 6.0 | + cm3/1000 strokes + Check tolerance | : 5.0 |
| Spreed | . — 0.0 | + cm3/1000s. | : 9.0 |
| cm3/1000 strokes | : 8.0 | I (ms/ 10003. | . 9.0 |
| Check tolerance | . 0.0 | 1 | |
| cm3/1000s. | : 12.0 | | |
| | | CONTROL LEVER | |
| | | + | |
| (B) SETTING OF IN | NJECTION PUMP | + control lever | |
| WITH GOVERNOR | | + position degree | |
| | | † tolerance degree | : +- 4.0 |
| CHIEF OF EDIE TO A | ·51 | - + | |
| GUIDE SLEEVE TRAV | /EL | + control lever | . 117.0 |
| Rated speed rpm | : 1050 | + position degree | |
| guide sleeve | . 0000 | tolerance degree | . T- 4.U |
| travel mm | : 7.80 | RATED SPEED | |
| Tolerance mm | : +- 0.10 | 1 | |
| , | | rack travel mm | : 12.70 |
| Rated speed rpm | : 700 | Rated speed rpm | : 995 |
| guide sleeve | | + Tolerance 1/min | : +- 5 |
| travel mm | : 5.45 | + | |
| Tolerance mm | : +- 0.25 | 🕂 rack travel mm | : 4.00 |
| | | + Rated speed rpm | |
| Rated speed rpm | : 300 | † Tolerance 1/min | : +- 15 |
| guide sleeve | 0.75 | † | 0.50 |
| travel mm | : 0.75 | + rack travel mm | : 0.50 |
| Tolerance mm | : +- 0.25 | + Tolerance mm | : + 0.50 |
| Rated speed rpm | : 500 | Rated speed rpm | : 1250 |
| guide sleeve | . 500 | I | |
| travel mm | : 3.55 | I | |
| Tolerance mm | : + 0.25 | LOW IDLE | |
| TOTAL MILIT | | 1 20, 1022 | |
| Rated speed rpm | : 1165 | + | |
| guide sleeve | | control lever | |
| travel mm | : 9.45 | position degree | : 83.0 |
| Tolerance mm | : ← 0.25 | + tolerance degree | : +- 4.0 |
| | | † | |
| | | - + control lever | 40.0 |
| GUIDE SLEEVE POSI | TION | + position degree | |
| Dadad assad ass | . 1120 | tolerance degree | : +- 4.0 |
| Rated speed rpm | : 1120 | Testing: | |
| Rack travel in mm | • 16.50 | T resumy. | |
| Tolerance mm | | + Rated speed rpm | : 300 |
| THE SECOND SECOND | | + rack travel mm | |
| | | - Tolerance mm | : + 0.10 |
| FULL LOAD DELIVER | Y AT FULL LOAD STOP | + | |
| | | Rated speed rpm | : 100 |
| Rated speed rpm | : 700 | + | |
| Aneroid pressure | | + CRT mm min. | : > 9.00 |
| hPa | : 1300 | † | 705 |
| | | + Rated speed rpm | : 325 |
| | | | |

| | | + Check tolerance - + cm3/1000s. : +- 5. |
|---|--|---|
| TORQUE CONTROL | | Spreed |
| . | 700 | + cm3/1000 strokes : 8. |
| Rated speed rpm rack travel mm Tolerance mm | : 700 : 13.75 : +- 0.05 | Check tolerance cm3/1000s. : 12. |
| Rated speed rpm | : 950 | Aneroid pressure |
| rack travel mm Tolerance mm | : 13.75 : + 0.05 | Rated speed rpm : 500 Del. quantity |
| | | cm3/1000 strokes : 121. - cm3/1000 strokes : +- 1. |
| ANEROID/ALTITUDE COMPENSATOR TEST | | + Check tolerance + cm3/1000s. : +- 4. + Spreed |
| SETTING | | + cm3/1000 strokes : 5. + Check tolerance |
| 02111110 | | + cm3/1000s. : 9. |
| Rated speed rpm Pressure hPa rack travel mm Tolerance mm | : 500 : 1300 : 13.75 : ← 0.05 | BREAKAWAY |
| MEASUREMENT | | Rack travel in mm : 12.7 |
| Pressure hPa Rated speed rpm | : - : 500 | Rated speed rpm : 995 Tolerance 1/min : +- |
| Rated speed rpm | : 500 | |
| Pressure hPa | : 800 | STARTING FUEL DELIVERY |
| rack travel mm Tolerance mm | : 2.85 : +- 0.15 | Rated speed rpm : 100 Del. quantity |
| Pressure hPa | : 480 | cm3/1000 strokes : 250. cm3/1000 strokes : +- 10. |
| rack travel mm Tolerance mm | : 0.90 : + 0.10 | + Check tolerance + cm3/1000s. : +- 14. |
| START CUT-OUT | | - ‡ |
| Rated speed rpm Rated speed rpm | : > 100 : < 220 | LOW IDLE |
| Check | | Rated speed rpm : 300 Del. quantity |
| | : > 80 | cm3/1000 strokes : 17. cm3/1000 strokes : +- 3. |
| speed 1/min | : < 240 | Check tolerance cm3/1000s. : +- 6. |
| FUEL DELIVERY CHAR | ACTERISTICS | - Spreed - cm3/1000 strokes : 8. |
| Aneroid pressure | . 1200 | + Check tolerance + cm3/1000s. : 12. |
| nPa Rated speed rpm | : 1300 : 950 | ‡ |
| Del. quantity cm3/1000 strokes | : 256.0 | ‡ |
| cm3/1000 strokes | : 2.0 | + |